Service Manual

ORDER NO.
ARP3036

PROJECTION COLOUR TELEVISION

SD-T50W1

- **This service manual should be used together with the following manual(s):**

Model No.	Order No.	Remarks
SD-T50W1	ARP2932	

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	Remarks
	SD-T50W1		
WYZI7/2	○	AC220–240V	

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1. CONTRAST OF MISCELLANEOUS PARTS

NOTES :

- *Parts marked by “* NSP *” are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

  Ex. 1 *When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).*

  560 Ω → 56 × 10^{1} *→ 561 .... RD1/4PU* $\boxed{5}\boxed{6}\boxed{1}$ *J*
  47k Ω → 47 × 10^{3} *→ 473 .... RD1/4PU* $\boxed{4}\boxed{7}\boxed{3}$ *J*
  0.5 Ω → R50 .... RN2H $\boxed{R}\boxed{5}\boxed{0}$ *K*
  1 Ω → 1R0 .... RS1P $\boxed{1}\boxed{R}\boxed{0}$ *K*

  Ex. 2 *When there are 3 effective digits (such as in high precision metal film resistors).*

  5.62k Ω → 562 × 10^{1} *→ 5621 .... RN1/4PC* $\boxed{5}\boxed{6}\boxed{2}\boxed{1}$ *F*

- *Parts marked by ☆ are important parts which relate in X-rays radiation. If any of these parts need to be replaced, always replace with specified parts.*
- *Parts marked by × are important parts which relate in X-rays radiation. If a failure occurs in any of these parts, replace the printed circuit board assembly where the relevant part has already been adjusted as a working component. Do not replace the actual part itself. If any part marked by × is replaced, there is danger of being exposed to X-rays.*
- *Reference Nos. indicate the pages and Nos. in the service manual for the base model.*

■ CONTRAST TABLE

SD-T50W1/WYZI7/2 and SD-T50W1/SL are constructed the same except for the following:

Ref. No.	Mark	Symbol and Description	Part No.		Remarks
			SD-T50W1 SL	SD-T50W1 WYZI7/2	
P14–1		CONVERGENCE ASSY	AWV1520	AWV1547	*2
P16–2		VIDEO • UCOM ASSY	AWV1542	AWV1566	*2
	NSP	TUNER ASSY	AWV1543	AWV1589	
P14–3		├ TUNER ASSY	AWZ6075	AWZ6155	*2
P14–4		├ R CONV DAC ASSY	AWZ6076	AWZ6076	
P14–5		├ G CONV DAC ASSY	AWZ6077	AWZ6077	
P14–6		├ B CONV DAC ASSY	AWZ6078	AWZ6078	
P16–7		├ A CONNECTOR ASSY	AWZ6079	AWZ6079	
P16–8		├ B CONNECTOR ASSY	AWZ6080	AWZ6080	
P14–9		└ C CONNECTOR ASSY	AWZ6081	AWZ6081	
	NSP	AV I/O ASSY	AWV1544	AWV1567	
P16–10		├ AV I/O ASSY	AWZ6082	AWZ6121	*2
P15–11		├ FRONT CONTROL ASSY	AWZ6083	AWZ6122	
P16–12		├ AV2 ASSY	AWZ6084	AWZ6084	
P14–13		└ S TERMINAL ASSY	AWZ6085	AWZ6085	
	NSP	CRT DRIVE ASSY	AWV1545	AWV1781	
P16–14		├ AUDIO ASSY	AWZ6086	AWZ6123	*2
P17–15		├ R CRT DRIVE ASSY	AWZ6087	AWZ6087	
P17–16		├ G CRT DRIVE ASSY	AWZ6088	AWZ6088	
P17–17		├ B CRT DRIVE ASSY	AWZ6089	AWZ6089	
P14–18		├ AC IN ASSY	AWZ6090	AWZ6420	
P16–19		├ Y/C ASSY	AWZ6091	AWZ6091	
P16–20		├ D CONNECTOR ASSY	AWZ6092	AWZ6092	
P14–21		├ POWER DOWN ASSY	AWZ6093	AWZ6093	
P14–22		└ RELAY DRIVE ASSY	AWZ6094	AWZ6094	
P16–23	☆	POWER SUPPLY ASSY	AWV1546	AWV1767	*2
P16–24		DIGITAL ASSY	AWV1659	AWV1659	
		TV FRONT END	AXF1085	AXF1085	
		RELAY ASSY	Not used	AWV1768	*1 No. 1, *2

*1: The numbers in the remarks column correspond to the numbers on the " EXPLODED VIEWS ".

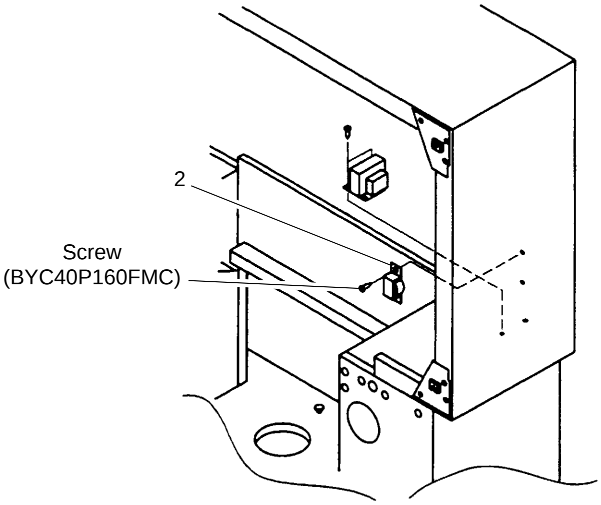
*2: Refer to " 2. SCHEMATIC DIAGRAM ".

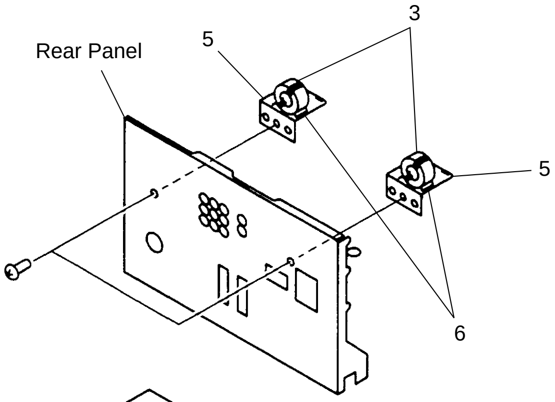
Ref. No.	Mark	Symbol and Description	Part No.		Remarks
			SD-T50W1 SL	SD-T50W1 WYZI7/2	
		■ **PACKING**			
P8-152		Operating Instructions (English)	ARB1500	Not used	
		Operating Instructions (Dutch/Swedish/Spanish/Portuguese)	Not used	ARC1500	
		Operating Instructions (English/French/German/Italian)	Not used	ARE1342	
P8-155	NSP	Caution Label 220V	ARR1002	Not used	
P8-156	NSP	Warranty Card	ARW1020	ARY7022	
P8-158		Remote Control Unit	AXD1424 (CU-SD097)	AXD1440 (CU-SD106)	
P8-160	NSP	Battery (R03, AAA)	AEX–021	DCX1023	
P8-165		Upper Carton	AHD2846	AHD3010	
	NSP	Caution Card	Not used	AAX1756	
	NSP	Conver Caution	Not used	ARM1113	
	NSP	X-Rays Approval S	Not used	ARY1082	
	NSP	Schematic Diagram 1	Not used	ARH1164	
	NSP	Schematic Diagram 2	Not used	ARH1165	
	NSP	Schematic Diagram 3	Not used	ARH1166	
	NSP	Adjustment	Not used	ARH1157	
	NSP	Caution Card	Not used	ARM1065	
		■ **FRONT VIEW**			
P9-145		Badge	AAM1068	AAM1083	
		■ **REAR VIEW**			
P13-45	⚠	AC Power Cord	ADG1109	Not used	
P13-97		Spacer	AEC1594	Not used	
P14-57		3P Lead Wire with Housing (J10)	ADX2244	ADX2273	
		■ **GRILLE AND CONTROL PANEL**			
P15-26		Control Panel	AMB2524	AMB2646	
P15-58		Wire Harness C (J11)	ADX2245	ADX2538	
P15-143		Control Sheet	AAK2668	AAK2734	
		■ **CHASSIS SECTION**			
P16-34	⚠	Voltage Selector (S1)	AKX7001	Not used	
P16-56		Wire Harness B (J19)	ADX2243	ADX2269	
P16-70		Rear Panel	ANC2276	ANC2325	
		■ **OTHERS**			
		Cabinet 50 (WOOD)	AMM2604	AMM2712	
		Plug Cord (J20)	ADE–082	ADE1157	
		2P Lead Wire with Housing (J12)	ADX2246	Not used	*2
		3P Lead Wire with Housing (J12)	Not used	ADX2537	
		Cut Wire (J14)	ADX2248	Not used	
		Cut Wire (J15)	ADX2249	Not used	
		Cut Wire (J16)	ADX2250	Not used	
		Cut Wire (J17)	ADX2251	Not used	
	⚠	Choke Coil (L4)	Not used	ATL1128	*1 No. 2, *2
	⚠	Ferrite Core (L5, L6)	Not used	ATX1019	*1 No. 3, *2
	⚠	Block Core (L7)	Not used	ATX1030	*1 No. 4, *2
		Holder	Not used	ANG2130	*1 No. 5
		Fixed Mold	Not used	AEC1600	*1 No. 6
		CU Packing Case (for AC power cord)	Not used	AHC1029	*1 No. 7
	NSP	Release Tie	Not used	AEC1723	*1 No. 8
	NSP	CR Holder	Not used	ANG1867	*1 No. 9
		PVC Sheet	Not used	AEC1792	for Mirror Case
		Screw (for Bottom Rail)	Not used	BYC40P200FZK	

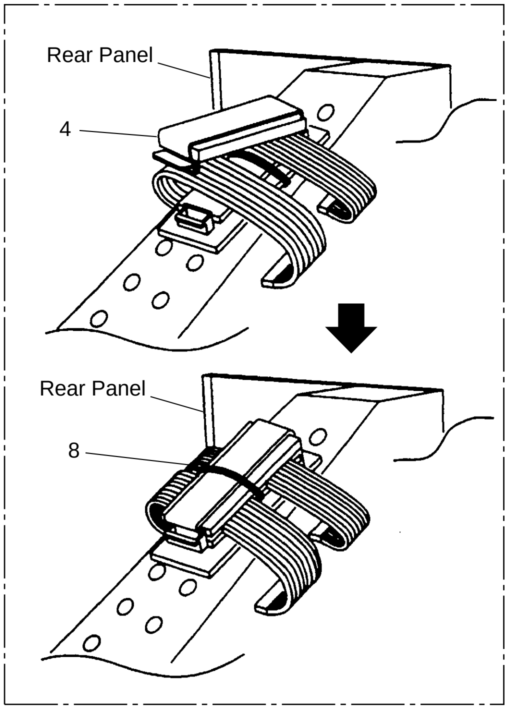
*1: The numbers in the remarks column correspond to the numbers on the " EXPLODED VIEWS ".

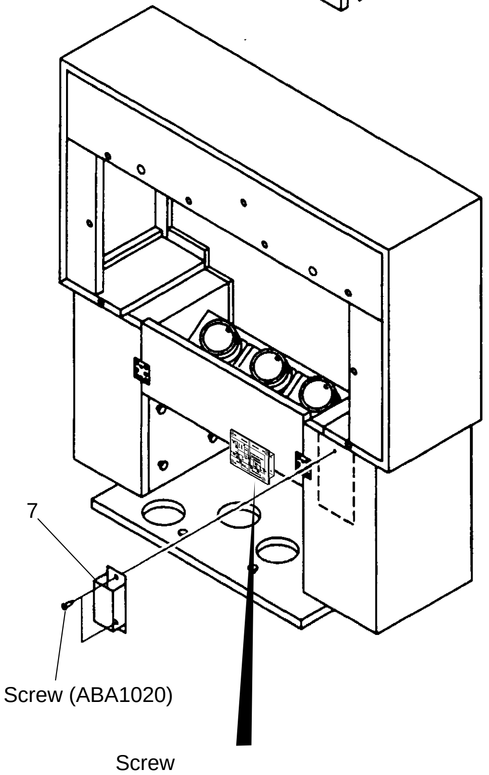
*2: Refer to " 2. SCHEMATIC DIAGRAM ".

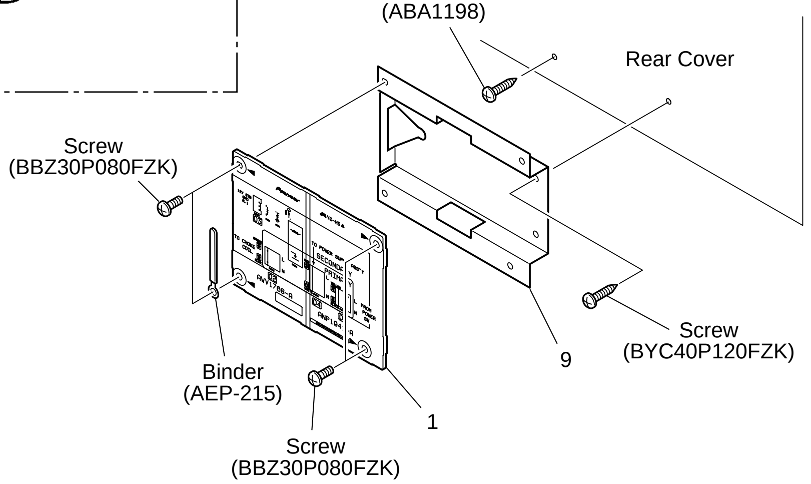
■ EXPLODED VIEWS


2
Screw
(BYC40P160FMC)


Rear Panel
5
3
5
6


Rear Panel
4
Rear Panel
8


7
Screw (ABA1020)


Screw
(ABA1198)
Rear Cover
Screw
(BBZ30P080FZK)
Screw
(BYC40P120FZK)
9
Binder
(AEP-215)
1
Screw
(BBZ30P080FZK)

■ CONTRAST OF PCB ASSEMBLIES

VIDEO • UCOM ASSY

AWV1566 and AWV1542 are constructed the same except for the following:

Mark	Symbol and Description	Part No.		Remarks
		AWV1542	AWV1566	
	VIDEO BLOCK			
	C1184–C1186	Not used	CKDYB102K50	*
	C1187	Not used	CCDSL221J50	*
	C1188	Not used	CKDYF103Z50	*
	C1189	Not used	CKDYB222K50	*
	C1190	Not used	CCDSL470J50	*
	UCOM BLOCK			
	C3348, C3349	Not used	CKDYF103Z50	*
	R3482	Not used	RD1/4PU103J	*
	R3483	RD1/4PU103J	Not used	

*: Refer to " 2. SCHEMATIC DIAGRAM ".

AV I/O ASSY

AWZ6121 and AWZ6082 are constructed the same except for the following:

Mark	Symbol and Description	Part No.		Remarks
		AWZ6082	AWZ6121	
	AV I/O BLOCK			
	D1825, D1826, D1828, D1829, D1831, D1832	HSS104-02	Not used	
	D1827, D1830	MTZJ12	Not used	
	C1867, C1868	CEAS4R7M50	Not used	
	C1869, C1870	CEAS220M50	Not used	
	C1871	CKCYF103Z50	Not used	
	C1884, C1885	Not used	CCDSL560J50	*
	CN1811 Plug 10-P	KM250MA10	Not used	
	TELETEXT BLOCK			
	R2052	Not used	RD1/4PU101J	*

*: Refer to " 2. SCHEMATIC DIAGRAM ".

FRONT CONTROL ASSY

AWZ6122 and AWZ6083 are constructed the same except for the following:

Mark	Symbol and Description	Part No.		Remarks
		AWZ6083	AWZ6122	
	Q3901, Q3902	2SC2458	Not used	
	D3901, D3902	MTZJ15	Not used	
	C3902, C3903	CEAS4R7M50	Not used	
	C3905	CKCYF473Z50	Not used	
	C3906	CEAS470M25	Not used	
	R3901, R3902	RD1/4PU474J	Not used	
	R3903–R3905	RD1/4PU750J	Not used	
	R3906–R3909	RD1/4PU473J	Not used	
	R3910, R3911	RD1/4PU102J	Not used	
	R3913, R3914	RD1/4PU472J	Not used	
	CN3902 Pin Jack (1P)	AKB1063	Not used	
	CN3903 Pin Jack (1P)	AKB1062	Not used	
	CN3904 Pin Jack (1P)	AKB1064	Not used	
	CN3901 Socket	AKP1081	Not used	
	CN3905 Plug 10-P	KM250MA10	Not used	

AUDIO ASSY

AWZ6123 and AWZ6086 are constructed the same except for the following:

Mark	Symbol and Description	Part No.		Remarks
		AWZ6086	AWZ6123	
	L3703, L3704 Line Filter	Not used	ATF1090	*
	L3707–L3710	Not used	ATX1008	*
	C3748, C3749	Not used	CKCYB332K50	*
	C3750, C3751	Not used	CKCYF473Z50	*
	C3762, C3764, C3765	Not used	CCDSL221J50	*
	C3763	Not used	CCCSL221J50	*
	R3734, R3735	RD1/4LMF100J	RD1/4LMF101J	
	R3757–R3760	Not used	RD1/4LMF100J	*
	R3771	Not used	RD1/2PM101J	*

*: Refer to " 2. SCHEMATIC DIAGRAM ".

AC IN ASSY

AWZ6420 and AWZ6090 are constructed the same except for the following:

Mark	Symbol and Description	Part No.		Remarks
		AWZ6090	AWZ6420	
	CN902, CN903 Plug 2-P	AKM1127	Not used	

POWER SUPPLY ASSY

AWV1767 and AWV1546 are constructed the same except for the following:

Mark	Symbol and Description	Part No.		Remarks
		AWV1546	AWV1767	
	POWER SUPPLY BLOCK			
	D131	S5688G	HSS104-02	
	D140	HSS104-02	Not used	
	C117	CCDSL101J50	CCCSL101J50	
	T101	ATT1273	ATT1283	
	RY101	ASR1036	Not used	
	CN106	Not used	AKM1127	*
	H. DEFLECTION BLOCK			
	VR201 (470Ω)	ACP1039	VCP1149	
	HIGH VOLTAGE BLOCK			
	C330	CCDSL101K2H	CCCSL101K2H	

*: Refer to " 2. SCHEMATIC DIAGRAM ".

CONVERGENCE ASSY

AWV1547 and AWV1520 are constructed the same except for the following:

Mark	Symbol and Description	Part No.		Remarks
		AWV1520	AWV1547	
	C721–C727	Not used	CCDSL101J50	*
	KN601, KN9998	Not used	ANK-142	*

*: Refer to " 2. SCHEMATIC DIAGRAM ".

■ PCB PARTS LIST

TUNER ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC1752		AT24C01A10PC
	IC1651		CXA1734S
	IC1701		LA7710
	IC1501		UPC1823ACU
	IC1751		UVS1101A24
	Q1524, Q1527, Q1528, Q1533, Q1756		2SA1048
	Q1501, Q1510, Q1512, Q1516, Q1517		2SC2458
	Q1523, Q1525, Q1529–Q1531, Q1536		2SC2458
	Q1543–Q1545, Q1651, Q1653, Q1704		2SC2458
	Q1751–Q1754, Q1781, Q1782		2SC2458
	Q1502–Q1508, Q1535, Q1540, Q1541		2SC2668
	Q1701–Q1703, Q1759		2SC2668
	Q1518, Q1519, Q1526, Q1532		2SC2878
	Q1757, Q1758, Q1783		2SC2878
	Q1521, Q1522		2SK246
	Q1511, Q1513–Q1515, Q1542, Q1755		XDC124ES
	D1508–D1514, D1517, D1533		1SS85
	D1501–D1506, D1519–D1521		HSS104-02
	D1530–D1532, D1534, D1535, D1753		HSS104-02
	D1536, D1651, D1652		MTZJ15
	D1515, D1516, D1527, D1537		MTZJ6.8
	D1507		RD33ESB3
	D1518		RD5.1ESB
	D1523–D1526		RD5.6ESB1
	D1538		RD6.8ESB
	D1752		RD8.2ESB2

COILS AND FILTERS

Mark	No.	Description	Part No.
	L1509, L1705		ATC-250
	L1510		ATE-067
	F1510		ATF-114
	F1504		ATF1046
	F1508, F1513, F1514		ATF1051
	F1502		ATF1052
	F1501		ATF1053
	F1505, F1507		ATF1063
	F1509		ATF1132
	F1511		ATF1137
	F1512		ATF1138
	F1503		ATF1140
	F1506		ATF1180
	F1701		ATF1181
	L1517		ATG1031
	L1515, L1530, L1756, L1757		ATX1008
	L1528		LAU100K
	L1503, L1508		LAU1R2J
	L1507, L1702, L1704		LAU1R8J
	L1501, L1511, L1516, L1518–L1520		LAU2R2K
	L1529, L1651, L1703		LAU2R2K
	L1785		LAU2R7J
	L1753		LAU2R7K
	L1782		LAU3R3J
	L1751		LAU3R3K
	L1512		LAU3R9J
	L1513, L1783, L1784		LAU4R7J
	L1752, L1754		LAU4R7K
	L1781		LAU5R6J
	L1514		LAU6R8J
	L1504, L1701, L1721, L1722, L1724		LAUR22J

CAPACITORS

Mark	No.	Description	Part No.
	C1660 (3.3 µF/50V)		ACH1128
	C1653 (10 µF/50V)		ACH1129
	TC1501		ACM-022
	C1725		CCCCH100D50
	C1701, C1722		CCCCH101J50
	C1543, C1727		CCCCH120J50
	C1723, C1781		CCCCH121J50
	C1753		CCCCH151J50
	C1617, C1618		CCCCH180J50
	C1619		CCCCH220J50
	C1783		CCCCH271J50
	C1565		CCCCH330J50
	C1716		CCCCH390J50
	C1515–C1517, C1540, C1613, C1614		CCCCH4R0C50
	C1634		CCCCH4R0C50
	C1784, C1788		CCCCH560J50
	C1557, C1561, C1633		CCCCH5R0C50
	C1531, C1728		CCCCH680J50
	C1508, C1611		CCCCH6R0D50
	C1584, C1612		CCCCH7R0D50
	C1782		CCCCH820J50
	C1548		CCCCH8R0D50
	C1556		CCCCH9R0D50
	C1506, C1507, C1510, C1539, C1551		CCCCJ3R0C50
	C1519		CCCCK1R0C50
	C1518, C1550		CCCCK2R0C50
	C1527–C1530, C1564, C1602, C1793		CCCSL101J50
	C1754, C1755		CCCSL121J50
	C1620		CCCSL221J50
	C1512		CCCSL560J50
	C1621		CCCSL680J50
	C1503, C1572, C1596, C1598, C1652		CEAS100M50
	C1713, C1714		CEAS100M50
	C1526, C1767		CEAS101M10
	C1552, C1554, C1667, C1682, C1687		CEAS101M25
	C1705, C1707		CEAS101M25
	C1523		CEAS102M16
	C1576, C1654, C1659, C1720		CEAS1R0M50
	C1715		CEAS220M50
	C1604		CEAS221M10

Mark	No.	Description	Part No.
	C1591, C1683, C1703		CEAS221M16
	C1570, C1579, C1588, C1590, C1593		CEAS470M25
	C1599, C1600, C1670, C1752, C1757		CEAS470M25
	C1763, C1766, C1768, C1771, C1786		CEAS470M25
	C1586		CEAS471M16
	C1574, C1655, C1656, C1664–C1666		CEAS4R7M50
	C1668, C1669, C1758–C1762		CEAS4R7M50
	C1772, C1773, C1790, C1791		CEAS4R7M50
	C1501		CEAS6R8M50
	C1568, C1577, C1581, C1661		CEASR47M50
	C1657		CFTXA224J50
	C1622		CFTXA334J50
	C1562		CFTYA104J50
	C1504, C1505, C1509, C1511		CKCYB102K50
	C1513, C1514, C1520, C1536, C1542		CKCYB102K50
	C1545–C1547, C1549, C1553, C1555		CKCYB102K50
	C1558, C1559, C1582, C1583, C1585		CKCYB102K50
	C1595, C1610, C1625, C1708, C1710		CKCYB102K50
	C1721, C1726		CKCYB102K50
	C1560, C1563, C1566, C1567, C1580		CKCYB103K50
	C1605, C1616, C1711, C1712, C1717		CKCYB103K50
	C1774		CKCYB103K50
	C1597		CKCYB122K50
	C1573, C1651, C1658, C1719		CKCYB222K50
	C1792		CKCYB681K50
	C1502, C1521, C1522, C1524, C1525		CKCYF103Z50
	C1534, C1544, C1578, C1587, C1589		CKCYF103Z50
	C1592, C1594, C1601, C1671, C1672		CKCYF103Z50
	C1684–C1686, C1704, C1706, C1709		CKCYF103Z50
	C1718, C1751, C1756, C1764, C1765		CKCYF103Z50
	C1769, C1770, C1785, C1787, C1789		CKCYF103Z50
	C1680		CKDYB222K50
	C1569, C1688		CKDYF103Z50
	C1575		CQMA153J50
	C1663		CQMA272J50
	C1662		CQMA473J50

RESISTORS

Mark	No.	Description	Part No.
	R1504		RD1/2PM562J
	R1517, R1518		RD1/2PM681J
	R1506, R1550, R1795		RD1/4LMF101J
	R1539		RD1/4LMF331J
	R1513, R1533, R1710		RD1/4LMF471J
	R1703		RD1/4LMF681J
	R1655		RN1/4PC4302F
	R1656		RN1/4PC6202F
	R1606		RS2LMF4R7J
	VR1502 (4.7 kΩ)		ACP1042
	VR1501		VRTS6VS105
	Other Resistors		RD1/4PU□□□J

OTHERS

Mark	No.	Description	Part No.
	X1501	(15.675 kHz)	ASS1122
	7100	SCREW	BBZ30P060FMC
	J1501, J1502	JUMPER WIRE	D15A12-125-2468

RELAY ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	D921		HSS104-02

SWITCHES AND RELAYS

Mark	No.	Description	Part No.
	RY921		ASR1036

OTHERS

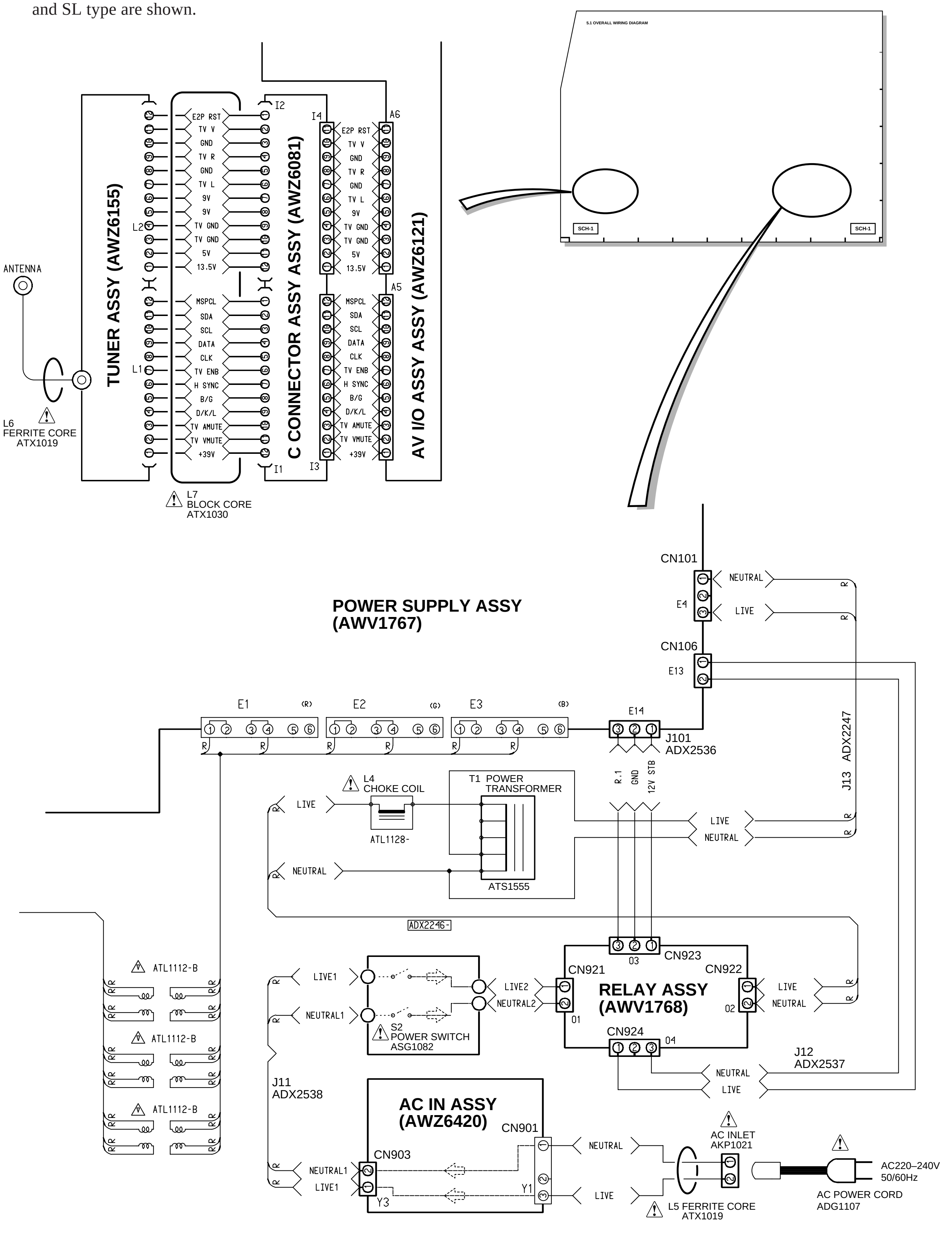
Mark	No.	Description	Part No.
	CN921, CN922	PLUG 2-P	AKM1127
	CN924	PLUG 3-P	AKM1128
	CN923	PLUG 3-P	KM250MA3

2. SCHEMATIC DIAGRAM

Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "PCB PARTS LIST".

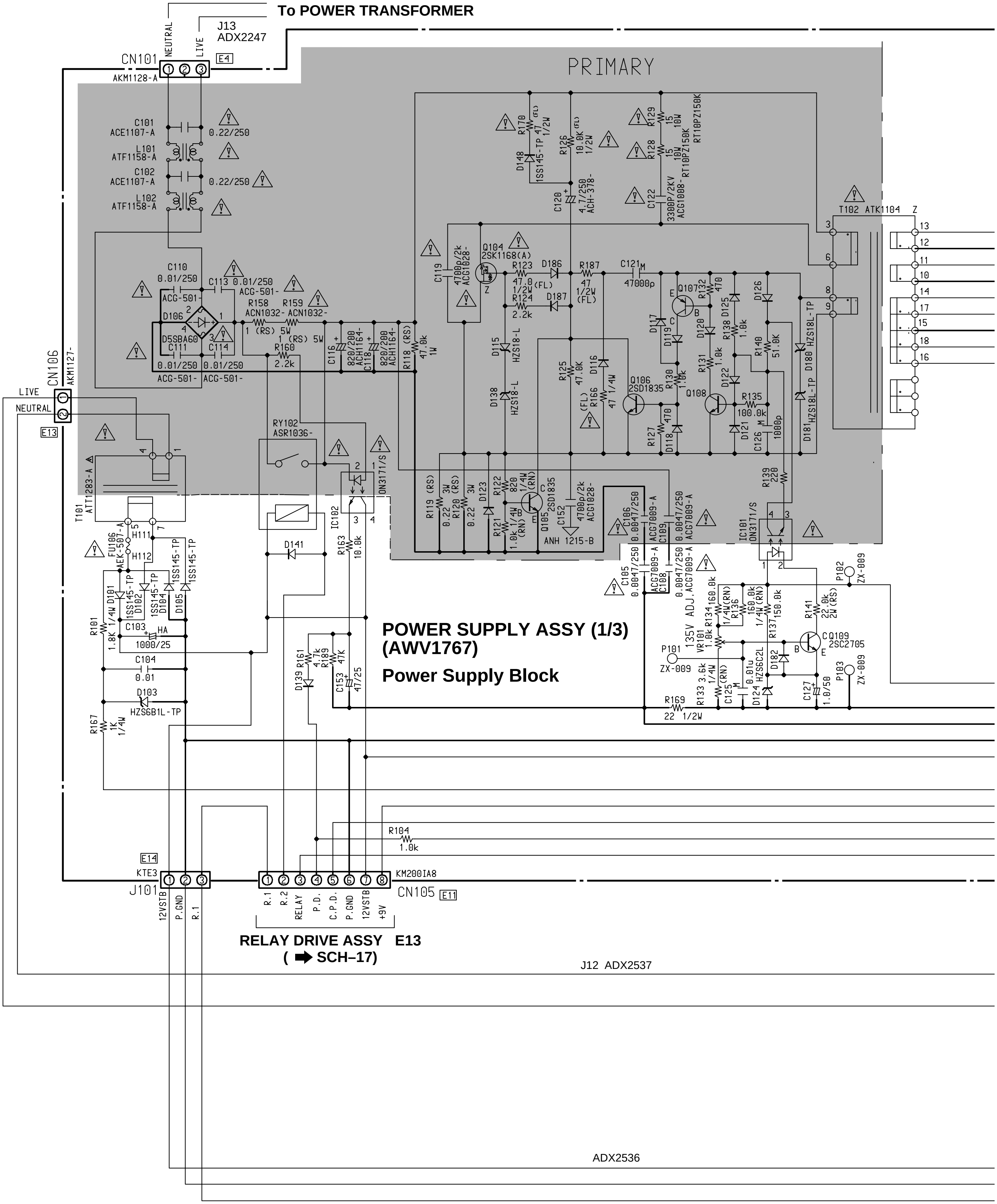
2.1 OVERALL WIRING DIAGRAM

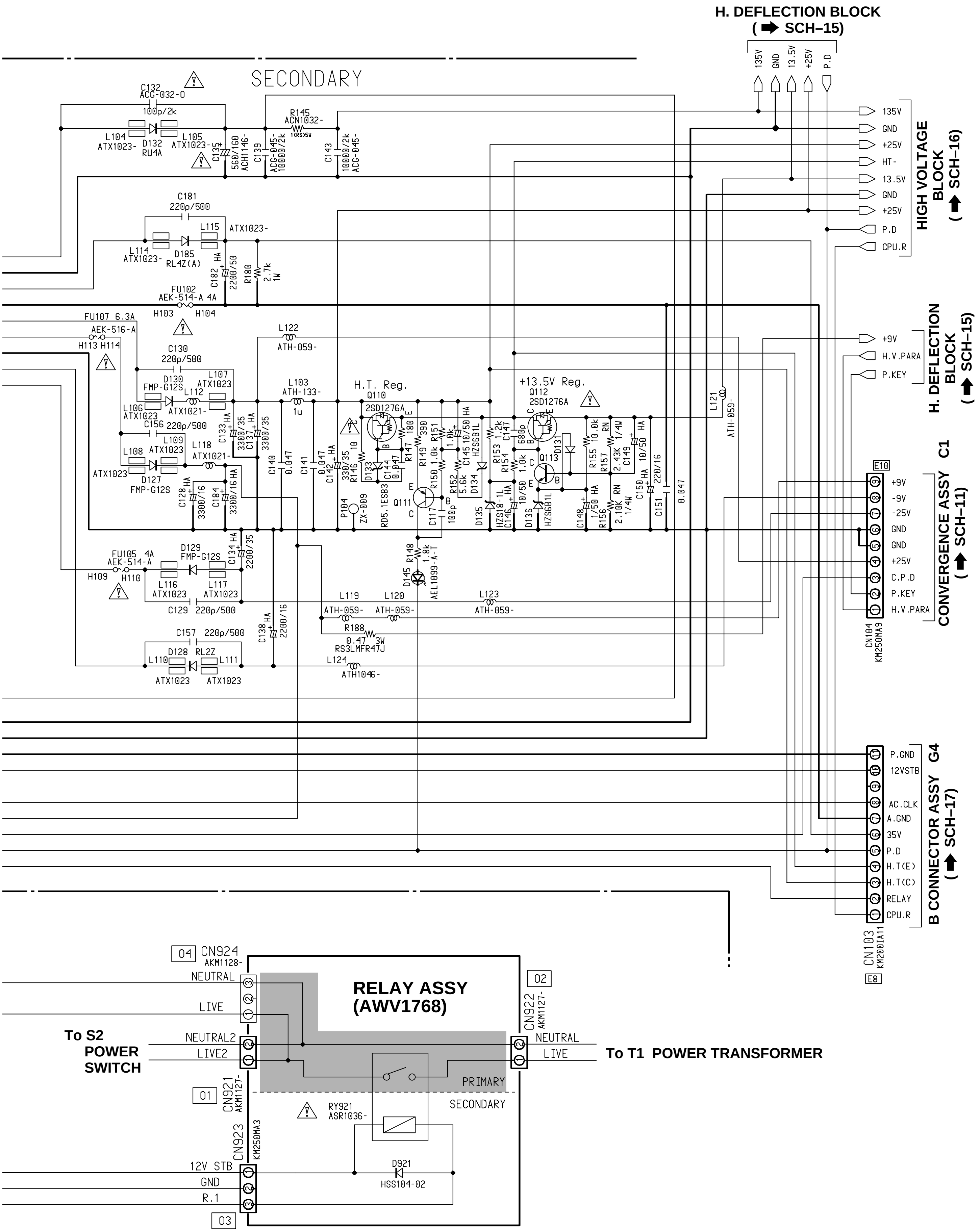
Only the differences in the overall wiring diagram between WYZI7/2 type and SL type are shown.


5.1 OVERALL WIRING DIAGRAM
SCH-1
SCH-1
ANTENNA
L6
FERRITE CORE
ATX1019
TUNER ASSY (AWZ6155)
L2
L1
C CONNECTOR ASSY ASSY (AWZ6081)
I2
I1
I4
I3
AV I/O ASSY ASSY (AWZ6121)
A6
A5
E2P RST
TV V
GND
TV R
GND
TV L
9V
9V
TV GND
TV GND
5V
13.5V
MSPCL
SDA
SCL
DATA
CLK
TV ENB
H SYNC
B/G
D/K/L
TV AMUTE
TV VMUTE
+39V
L7
BLOCK CORE
ATX1030
CN101
NEUTRAL
E4
LIVE
POWER SUPPLY ASSY
(AWV1767)
CN106
E13
E1
(R)
E2
(G)
E3
(B)
E14
J101
ADX2536
R.1
GND
12V STB
J13 ADX2247
L4
CHOKE COIL
ATL1128-
T1 POWER
TRANSFORMER
ATS1555
LIVE
NEUTRAL
LIVE
NEUTRAL
ADX2246-
ATL1112-B
ATL1112-B
ATL1112-B
LIVE1
NEUTRAL1
LIVE2
NEUTRAL2
S2
POWER SWITCH
ASG1082
03
CN923
CN921
CN922
RELAY ASSY
(AWV1768)
01
02
CN924
04
LIVE
NEUTRAL
J12
ADX2537
NEUTRAL
LIVE
J11
ADX2538
AC IN ASSY
(AWZ6420)
CN901
CN903
NEUTRAL1
LIVE1
Y3
Y1
NEUTRAL
LIVE
AC INLET
AKP1021
L5 FERRITE CORE
ATX1019
AC220–240V
50/60Hz
AC POWER CORD
ADG1107

2.2 POWER SUPPLY and RELAY ASSEMBLIES

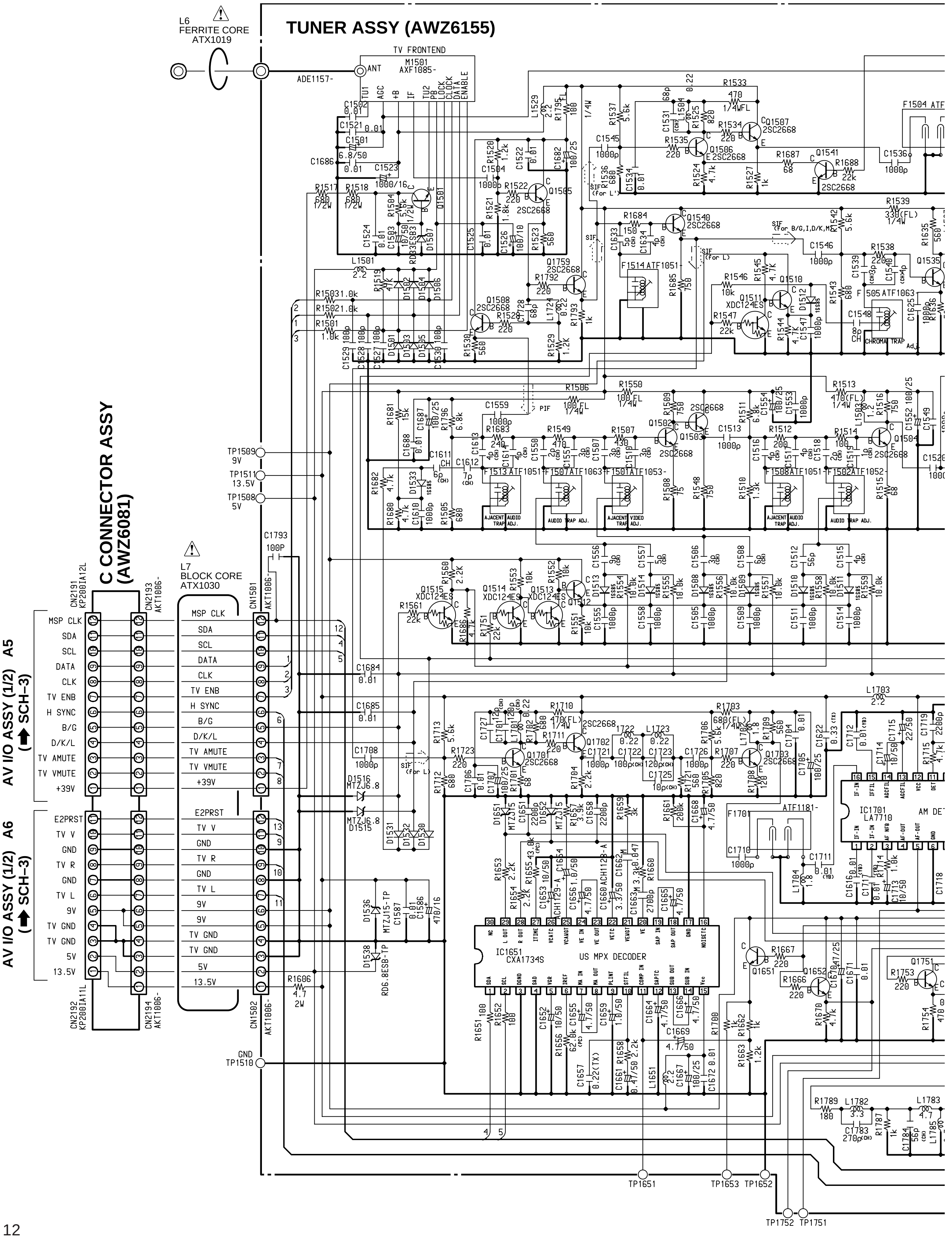
Only the differences in the power supply assy between WYZI7/2 type and SL type are shown.

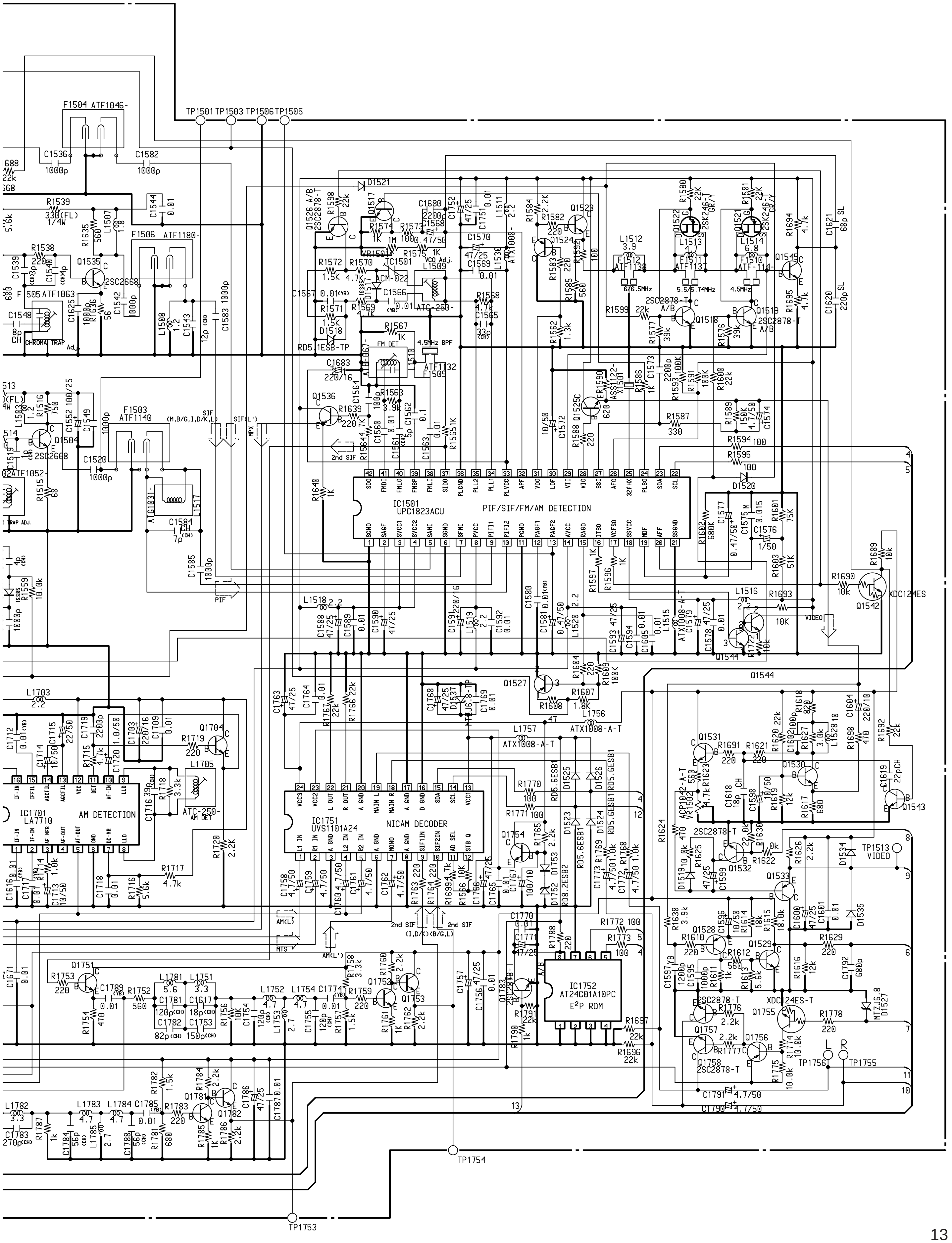

To POWER TRANSFORMER
J13
ADX2247
NEUTRAL
LIVE
CN101
AKM1128-A
PRIMARY
C101 ACE1107-A 0.22/250
L101 ATF1158-A
C102 ACE1107-A 0.22/250
L102 ATF1158-A
C110 0.01/250
C113 0.01/250 ACG-501-
D106 D5SBA60
C111 C114
R158 R159 ACN1032-
R160 2.2k
C116 C118 820/200 ACH1164-
R118 (RS) 47.0k 1W
Q104 2SK1168(A)
C119 4700p/2k ACG1028-
R123 47.0 1/2W (FL)
R124 2.2k
D186 D187
R187 47 1/2W (FL)
C121 47000p
R170 47 1/2W
R126 10.0k 1/2W
D148 1SS145-TP
C120 4.7/250 ACH-378-
R129 15 10W RT10PZ150K
R128 15 10W RT10PZ150K
C122 3300P/2KV ACG1008-
T102 ATK1104
Q107 Q106 2SD1835 Q108
R132 470
D125 D126 D117 D119 D120 D122 D121 D118
R138 1.0k R131 1.0k R130 1.0k R140 51.0k
R135 100.0k
C126 1000p
D180 HZS18L-TP D181 HZS18L-TP
D115 HZS18-L D138 HZS18-L
R125 47.0k D116 R166 47 1/4W (FL)
R127 470
RY102 ASR1036-
IC102 ON3171/S
R119 (RS) 0.22 3W R120 (RS) 0.22 3W
D123 R122 820 1/4W (RN) R121 1.0k 1/4W (RN)
Q105 2SD1835
C152 4700p/2k ACG1028-
ANH 1215-B
C106 0.0047/250 ACG7009-A
C109 0.0047/250 ACG7009-A
C105 0.0047/250 ACG7009-A
C108 0.0047/250 ACG7009-A
R139 220
IC101 ON3171/S
P102 ZX-009
CN106 AKM1127-
LIVE
NEUTRAL
T101 ATT1283-A
FU106 AEK-507-A
H111 H112
D101 D102 D104 D105 1SS145-TP
R101 1.8K 1/4W
C103 HA 1000/25
C104 0.01
D103 HZS6B1L-TP
R167 1K 1/4W
D141
R163 10.0k
R161 4.7k R189 47K
D139
C153 47/25
POWER SUPPLY ASSY (1/3) (AWV1767)
Power Supply Block
135V ADJ. VR101 1.0k
R134 160.0k 1/4W(RN)
R136 160.0k 1/4W(RN)
R137 150.0k
R141 22.0k 2W(RS)
Q109 2SC2705
D182
P101 ZX-009
R133 3.6k 1/4W
C125 0.01u
D124 HZS6C2L
C127 1.0/50
P103 ZX-009
R169 22 1/2W
R104 1.0k
KTE3 J101
12VSTB P.GND R.1
KM200IA8 CN105
R.1 R.2 RELAY P.D. C.P.D. P.GND 12VSTB +9V
RELAY DRIVE ASSY E13 (➡ SCH–17)
J12 ADX2537
ADX2536
E4 E11 E13 E14


H. DEFLECTION BLOCK
(➡ SCH–15)
135V
GND
13.5V
+25V
P.D
SECONDARY
C132
ACG-032-0
100p/2k
L104
ATX1023-
D132
RU4A
L105
ATX1023-
R145
ACN1032-
C135 560/160 ACH1146-
C139 ACG-045- 10000/2k
C143 10000/2k ACG-045-
C181
220p/500
L115
ATX1023-
L114
ATX1023-
D185
RL4Z(A)
C182 2200/50 HA
R180 2.7k 1W
FU102
AEK-514-A 4A
H103
H104
FU107 6.3A
AEK-516-A
H113 H114
C130
220p/500
L122
ATH-059-
D130
FMP-G12S
L107
ATX1023
L112
ATX1021-
L106
ATX1023
C156 220p/500
L103
ATH-133-
1u
H.T. Reg.
Q110
2SD1276A
+13.5V Reg.
Q112
2SD1276A
L109
ATX1023
L108
L118
ATX1021-
ATX1023
D127
FMP-G12S
C133 3300/35 HA
C137 3300/35 HA
C140 0.047
C141 0.047
C142 330/35 HA
R146 10
D133
C144 0.047
R147 180
R149 390
R150 1.0k
R151 1.0k
C145 10/50 HA
HZS6B1L
D134
R152 5.6k
R153 1.2k
R154 1.0k
C147 680p
Q113
D131
R155 10.0k
R157 2.43K RN 1/4W
C149 10/50 HA
C150 220/16 HA
C151 0.047
C128 3300/16 HA
C184 3300/16 HA
P104 ZX-009
Q111 RD5.1ESB3
C117 100p
D135 HZS18-1L
C146 10/50 HA
D136 HZS6B1L
C148 1/50 HA
R156 2.10K RN 1/4W
L121
ATH-059-
FU105 4A
AEK-514-A
H109
H110
D129
FMP-G12S
C134 2200/35 HA
L116
ATX1023
L117
ATX1023
C129 220p/500
R148 1.8k
D145 AEL1099-A-T
L119
ATH-059-
L120
ATH-059-
L123
ATH-059-
R188
0.47 3W
RS3LMFR47J
L124
ATH1046-
C138 2200/16 HA
C157 220p/500
D128 RL2Z
L110
L111
ATX1023
ATX1023
135V
GND
+25V
HT-
13.5V
GND
+25V
P.D
CPU.R
HIGH VOLTAGE BLOCK (➡ SCH–16)
+9V
H.V.PARA
P.KEY
H. DEFLECTION BLOCK (➡ SCH–15)
E10
+9V
-9V
-25V
GND
GND
+25V
C.P.D
P.KEY
H.V.PARA
CN104
KM250MA9
CONVERGENCE ASSY C1 (➡ SCH–11)
P.GND
12VSTB
AC.CLK
A.GND
35V
P.D
H.T(E)
H.T(C)
RELAY
CPU.R
CN103
KM200IA11
E8
B CONNECTOR ASSY G4 (➡ SCH–17)
04 CN924
AKM1128-
NEUTRAL
LIVE
RELAY ASSY
(AWV1768)
02
CN922
AKM1127-
To S2
POWER
SWITCH
NEUTRAL2
LIVE2
NEUTRAL
LIVE
To T1 POWER TRANSFORMER
PRIMARY
SECONDARY
01
CN921
AKM1127-
RY921
ASR1036-
CN923
KM250MA3
12V STB
GND
R.1
D921
HSS104-02
03

A
B
C
D

2.3 TUNER ASSY


L6
FERRITE CORE
ATX1019
TUNER ASSY (AWZ6155)
TV FRONTEND
M1501
AXF1085-
ANT
ADE1157-
TU1
AGC
+B
IF
TU2
PB
LOCK
CLOCK
DATA
ENABLE
C CONNECTOR ASSY
(AWZ6081)
L7
BLOCK CORE
ATX1030
CN2191
KP200IA12L
CN2193
AKT1006-
CN1501
AKT1006-
MSP CLK
SDA
SCL
DATA
CLK
TV ENB
H SYNC
B/G
D/K/L
TV AMUTE
TV VMUTE
+39V
E2PRST
TV V
GND
TV R
TV L
9V
TV GND
5V
13.5V
AV I/O ASSY (1/2) A5
(⬆ SCH–3)
AV I/O ASSY (1/2) A6
(⬆ SCH–3)
CN2192
KP200IA11L
CN2194
AKT1006-
CN1502
AKT1006-
TP1509
9V
TP1511
13.5V
TP1508
5V
GND
TP1510
C1793
100P
R1606
4.7
2W
D1516
MTZJ6.8
MTZJ6.8
D1515
D1536
MTZJ15-TP
D1538
RD6.8ESB-TP
Q1505
2SC2668
Q1501
Q1506
Q1507
Q1541
Q1540
Q1759
Q1508
Q1510
Q1511
XDC124ES
Q1535
Q1502
Q1503
Q1504
Q1515
Q1514
Q1513
Q1512
Q1701
Q1702
Q1703
Q1651
Q1652
Q1751
F1504 ATF
F1514 ATF1051-
F505 ATF1063
CHROMA TRAP
Adj.
SIF
(For L')
(For B/G,I,D/K,M)
(For L)
PIF
F1513 ATF1051-
F1507 ATF1063-
F1501 ATF1053-
F1508 ATF1051-
F1502 ATF1052-
AJACENT AUDIO TRAP ADJ.
AUDIO TRAP ADJ.
AJACENT VIDEO TRAP ADJ.
AJACENT AUDIO TRAP ADJ.
AUDIO TRAP ADJ.
L1703
2.2
F1701
ATF1181-
IC1701
LA7710
AM DET
IC1651
CXA1734S
US MPX DECODER
NC
L OUT
R OUT
ITIME
VCATC
VCAWGT
VE IN
VE OUT
VETC
VEWGT
VE
SAP IN
GND
NOISETC
SDA
SCL
DGND
SAD
VGR
IREF
MA IN
MA OUT
PLINT
STFIL
COMP IN
SAPTC
SUB OUT
SUB IN
Vcc
ACH1128-A
CH1129-A
R1789
L1782
L1783
TP1651
TP1653
TP1652
TP1752
TP1751

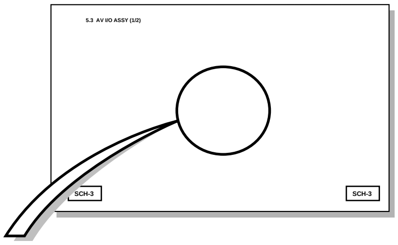

A
B
C
D
TP1501
TP1503
TP1506
TP1505
F1504 ATF1046-
C1536 1000p
C1582 1000p
R1539 330(FL) 1/4W
C1544 0.01
F1506 ATF1180-
Q1535 2SC2668
F 505 ATF1063
CHROMA TRAP Adj.
F1503 ATF1140
(M,B/G,I,D/K,L)
SIF
SIF(L')
MPX
Q1504 2SC2668
C1520 1000p
C1584 7p
C1585 1000p
PIF
D1521
Q1526 A/B 2SC2878-T
Q1517
VR1501
TC1501 ACM-022
VCO Adj.
L1509 ATC-250-
RD5.1ESB-TP
D1518
C1683 220/16
ATF1067-
FM DET
4.5MHz BPF
ATF1132 F1509
Q1536
2nd SIF
Q1523
Q1524
L1512 3.9
F1512 ATF1138
6.5MHz
Q1522 2SK246-Y GR/Y
L1513 4.7
F1511 ATF1137
5.5/5.74MHz
Q1521 2SK246-Y GR/Y
L1514 6.8
F1510 ATF-114-
4.5MHz
Q1545
2SC2878-T A/B
Q1518
Q1519 2SC2878-T A/B
Q1525C
X1501 ASS1122-
IC1501 UPC1823ACU
PIF/SIF/FM/AM DETECTION
D1520
R1690 10k
Q1542 XDC124ES
L1516
VIDEO
Q1544
L1515 ATX1008-A-T
L1518
L1703 2.2
Q1704
L1705 ATC-250- AM DET
IC1701 LA7710
AM DETECTION
Q1527
L1756 ATX1008-A-T
L1757 ATX1008-A-T
D1537 MTZJ6.8-TP
IC1751 UVS1101A24
NICAM DECODER
Q1754
D1525 RD5.6ESB1
D1526 RD5.6ESB1
D1523 RD5.6ESB1
D1524 RD5.6ESB1
D1752 RD8.2ESB2
D1753
AM(L)
MTS
AM(L')
2nd SIF (I,D/K)
(B/G,L)
2nd SIF
Q1751
Q1752
Q1753
L1781 5.6
L1751 3.3
L1752
L1754
Q1783 2SC2878-T
IC1752 AT24C01A10PC E²P ROM
Q1531
Q1530
Q1543
VR1502 ACP1042-A-T
Q1532 2SC2878-T
Q1533
D1534
TP1513 VIDEO
D1535
Q1528
Q1529
Q1755 XDC124ES-T
D1527 MTZJ6.8
Q1757
Q1756
Q1758 2SC2878-T
TP1756 L
TP1755 R
C1791 4.7/50
C1790 4.7/50
Q1781
Q1782
L1782 3.3
L1783 4.7
L1784 4.7
TP1754
TP1753
4
5
8
9
12
13
6
7
10
11

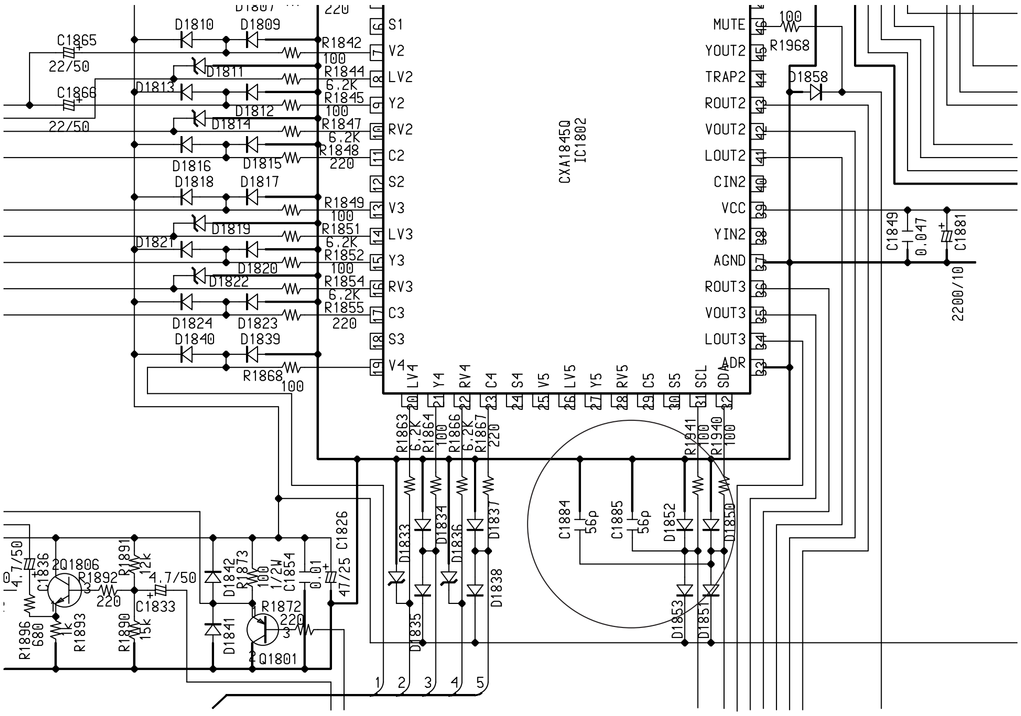
2.4 AV I/O ASSY

Only the differences in the AV I/O assy between WYZI7/2 type and SL type are shown.

AV I/O ASSY (1/2)
(AWZ6121)

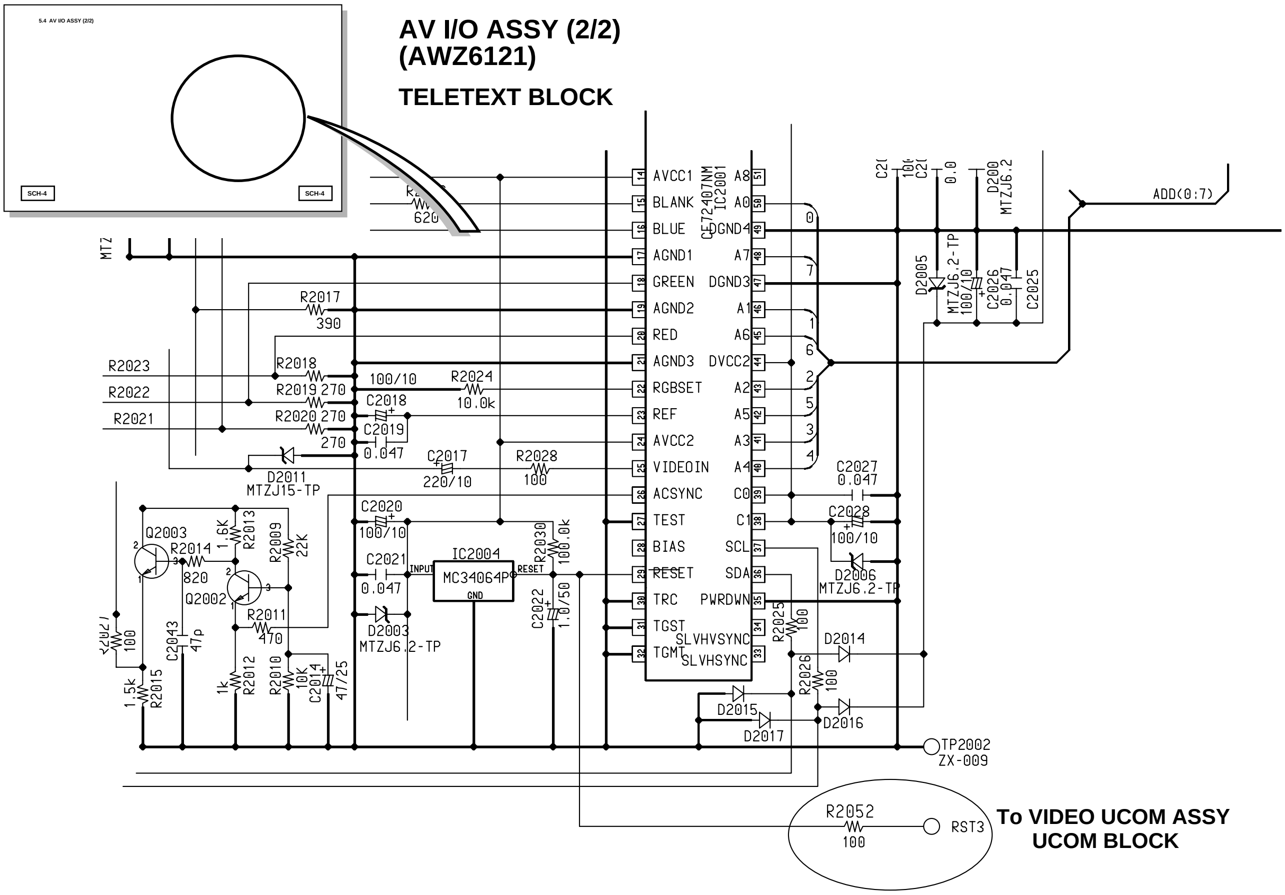
AV I/O BLOCK


5.3 AV I/O ASSY (1/2)
SCH-3
SCH-3


CXA1845Q
IC1802
S1
V2
LV2
Y2
RV2
C2
S2
V3
LV3
Y3
RV3
C3
S3
V4
LV4
Y4
RV4
C4
S4
V5
LV5
Y5
RV5
C5
S5
SCL
SDA
ADR
LOUT3
VOUT3
ROUT3
AGND
YIN2
VCC
CIN2
LOUT2
VOUT2
ROUT2
TRAP2
YOUT2
MUTE
C1865
22/50
C1866
22/50
D1810
D1809
D1811
D1813
D1812
D1814
D1816
D1815
D1818
D1817
D1819
D1821
D1820
D1822
D1824
D1823
D1840
D1839
R1842
100
R1844
6.2K
R1845
100
R1847
6.2K
R1848
220
R1849
100
R1851
6.2K
R1852
100
R1854
6.2K
R1855
220
R1868
100
R1968
100
D1858
C1849
0.047
C1881
2200/10
R1863
6.2K
R1864
100
R1866
6.2K
R1867
220
D1833
D1834
D1835
D1836
D1837
D1838
C1884
56p
C1885
56p
D1852
D1853
R1941
100
R1940
100
D1850
D1851
C1836
4.7/50
Q1806
R1892
220
R1891
12k
C1833
4.7/50
R1896
680
R1893
1k
R1890
15k
D1842
D1841
R1873
100
1/2W
C1854
0.01
C1826
47/25
R1872
220
Q1801
1
2
3
4
5

AV I/O ASSY (2/2)
(AWZ6121)

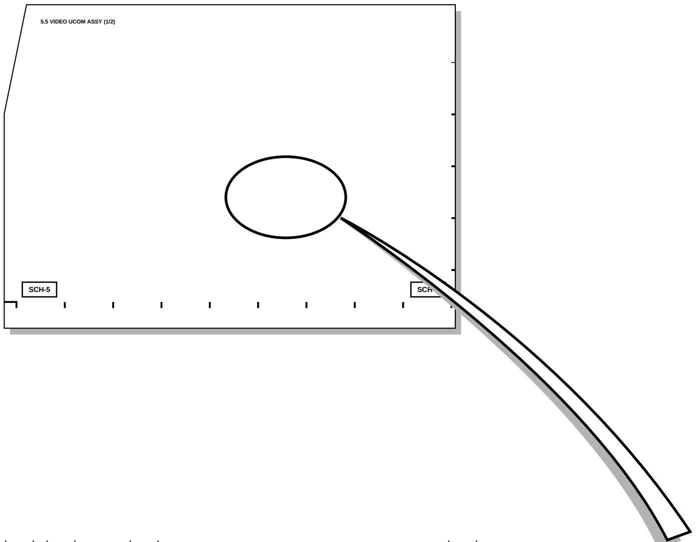
TELETEXT BLOCK


5.4 AV I/O ASSY (2/2)
SCH-4
SCH-4
CF72407NM
IC2001
AVCC1
BLANK
BLUE
AGND1
GREEN
AGND2
RED
AGND3
RGBSET
REF
AVCC2
VIDEOIN
ACSYNC
TEST
BIAS
RESET
TRC
TGST
TGMT
A8
A0
DGND4
A7
DGND3
A1
A6
DVCC2
A2
A5
A3
A4
C0
C1
SCL
SDA
PWRDWN
SLVHVSYNC
SLVHVSYNC
ADD(0:7)
MTZ
R2017
390
R2023
R2022
R2021
R2018
R2019 270
R2020 270
270
100/10
C2018
C2019
0.047
R2024
10.0k
C2017
220/10
R2028
100
D2011
MTZJ15-TP
Q2003
R2014
820
Q2002
R2013
1.6K
R2009
22K
R2011
470
C2020
100/10
C2021
0.047
IC2004
MC34064P
INPUT
RESET
GND
R2030
100.0k
C2022
1.0/50
D2003
MTZJ6.2-TP
R2015
1.5k
100
C2043
47p
R2012
1k
R2010
10K
C2014
47/25
D2005
MTZJ6.2-TP
C2026
100/10
0.047
C2025
D200
MTZJ6.2
C2027
0.047
C2028
100/10
D2006
MTZJ6.2-TP
R2025
100
D2014
R2026
100
D2015
D2016
D2017
TP2002
ZX-009
R2052
100
RST3
620

**To VIDEO UCOM ASSY
UCOM BLOCK**

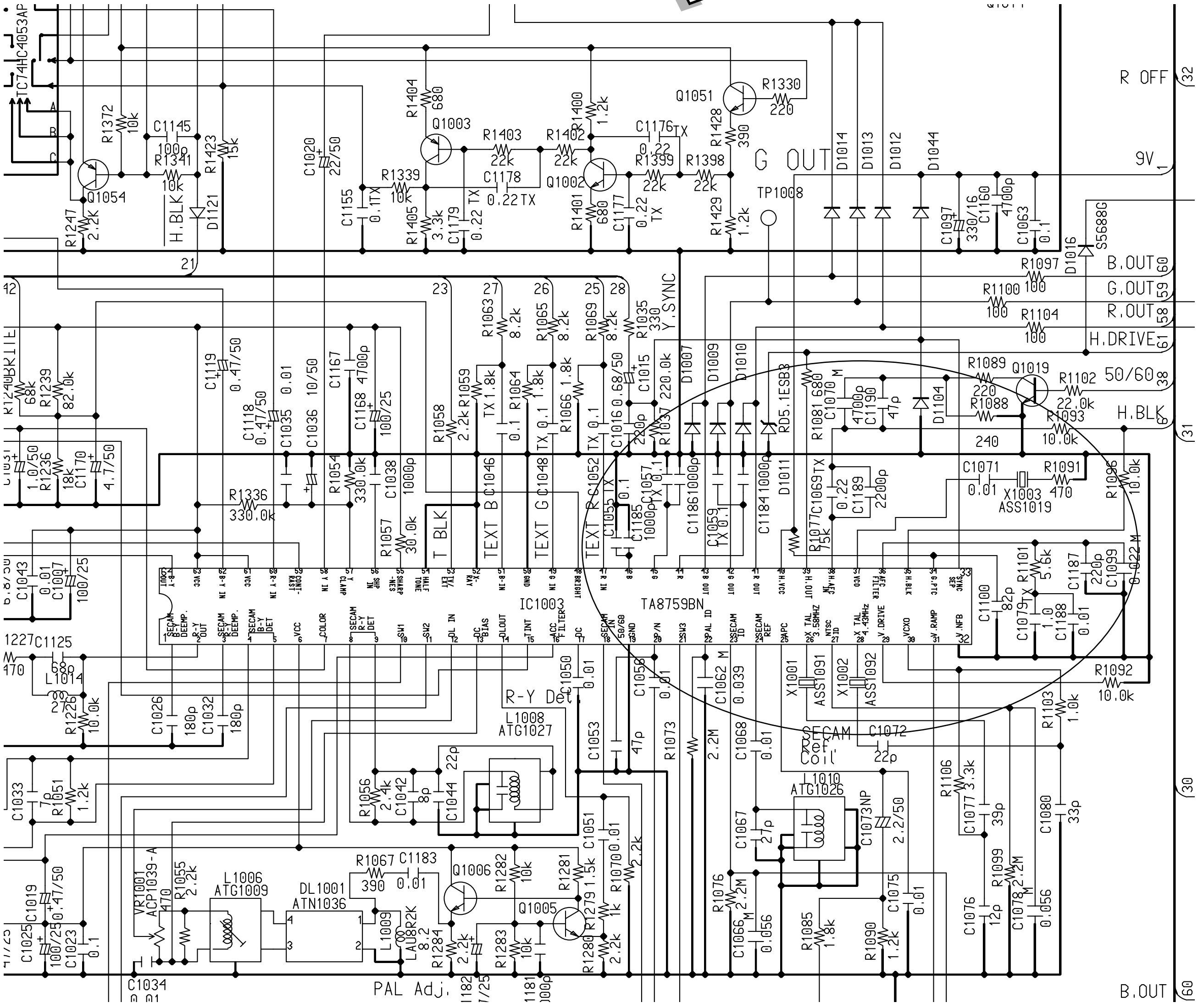
2.5 VIDEO • UCOM ASSY (1/2)

Only the differences in the VIDEO • UCOM assy (1/2) between WYZI7/2 type and SL type are shown.

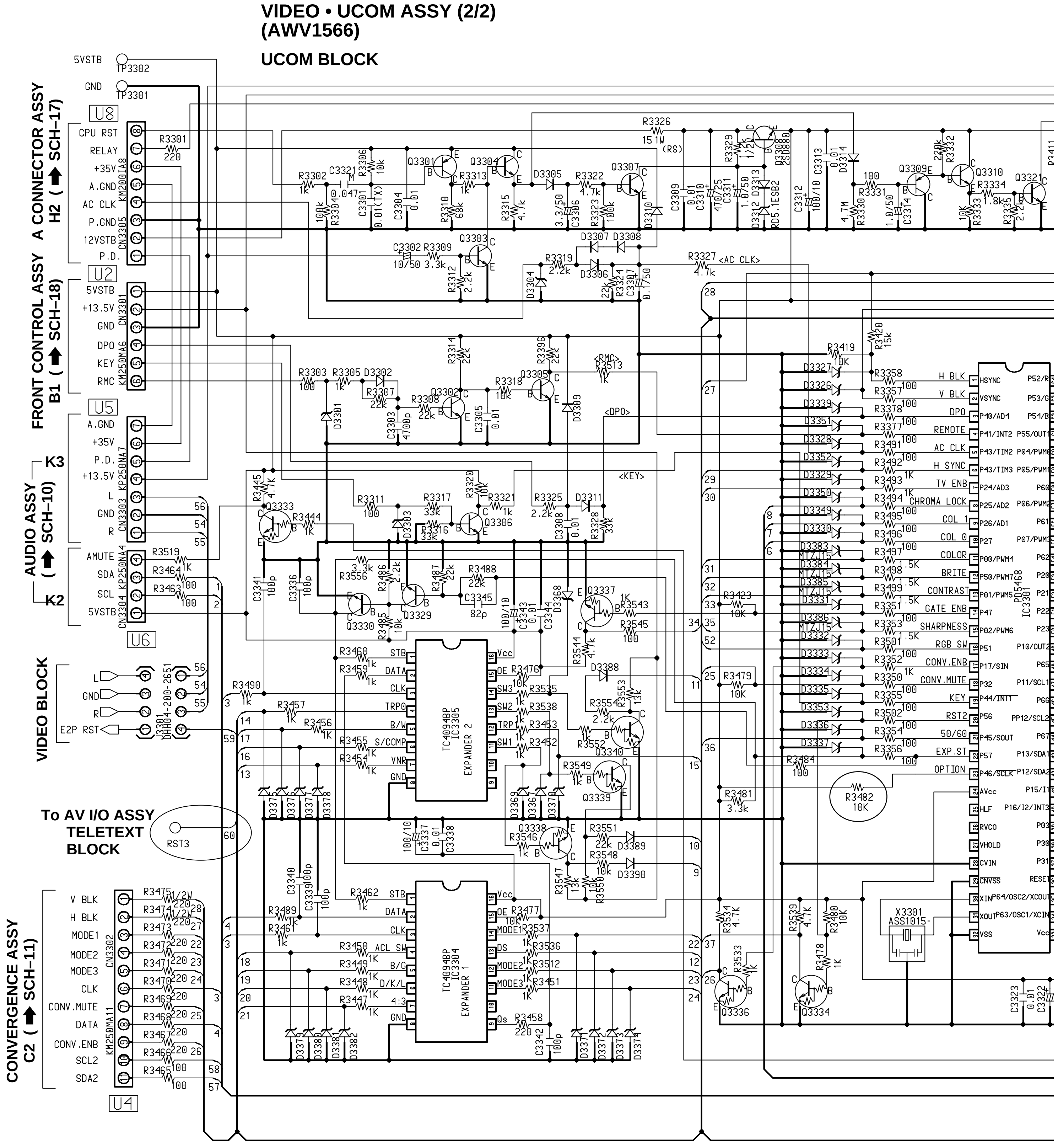

5.5 VIDEO UCOM ASSY (1/2)
SCH-5
SCH

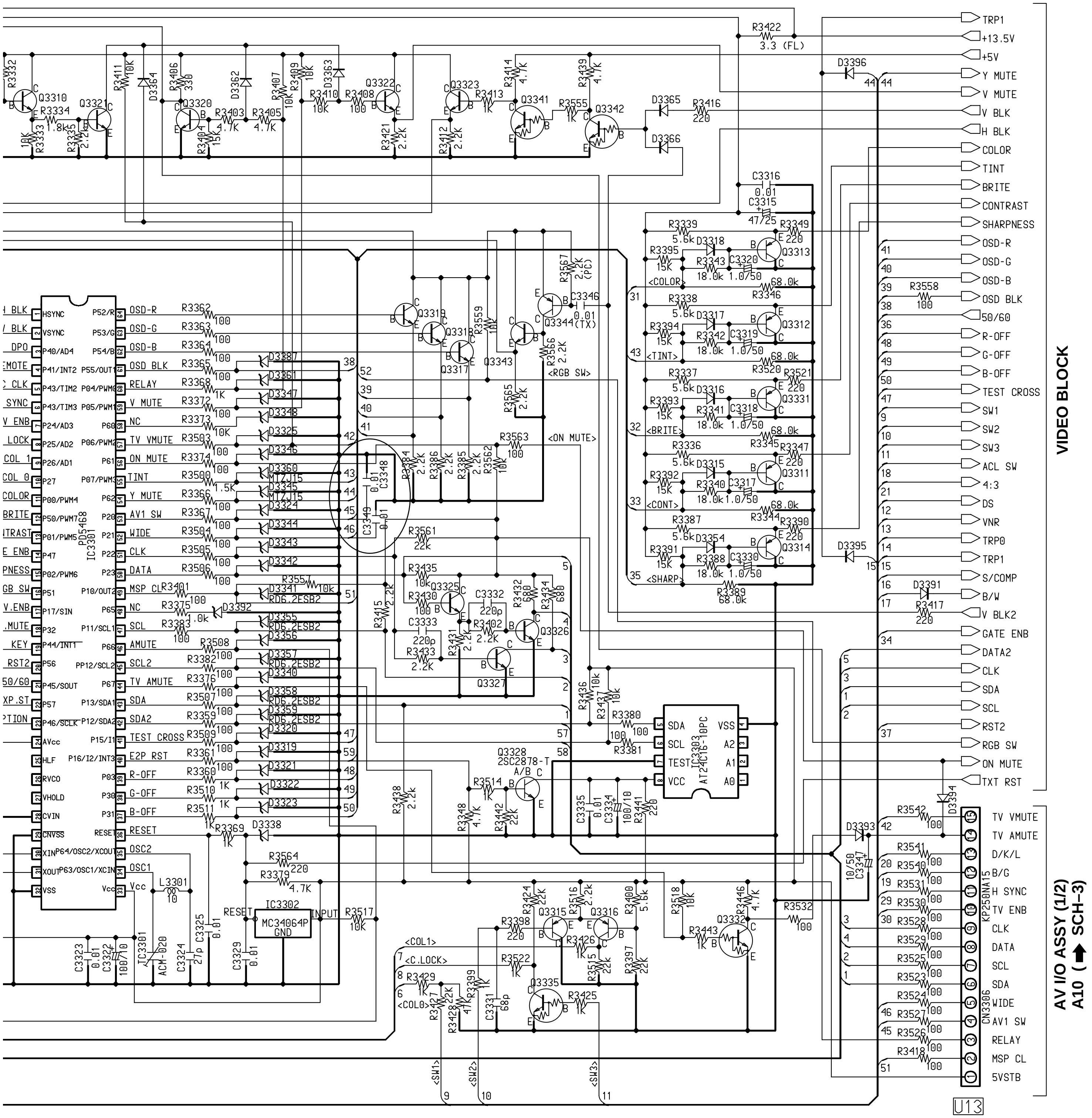
VIDEO • UCOM ASSY (1/2)
(AWV1566)

VIDEO BLOCK

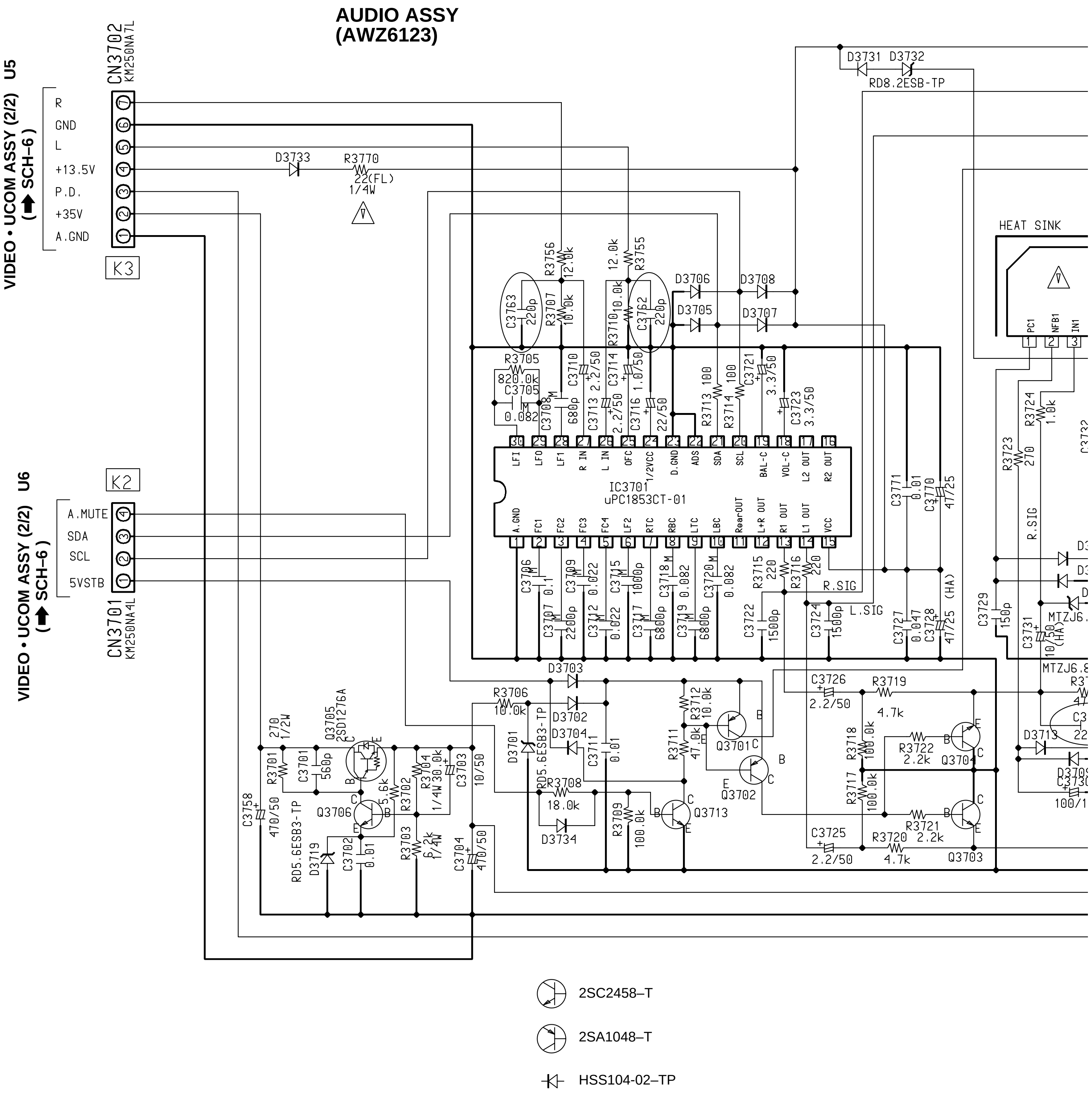

TC74HC4053AP
Q1054
R1247 2.2k
R1372 10k
C1145 100p
R1341 10k
R1423 15k
H.BLK
D1121
C1020 22/50
C1155 0.1TX
R1339 10k
R1404 680
Q1003
R1405 3.3k
C1179 0.22 TX
R1403 22k
C1178 0.22TX
R1400 1.2k
R1402 22k
Q1002
R1401 680
C1177 0.22 TX
C1176 0.22 TX
R1399 22k
R1398 22k
Q1051
R1330 220
R1428 390
R1429 1.2k
G OUT
TP1008
D1014
D1013
D1012
D1044
C1097 330/16
C1160 4700p
C1063 0.1
S5688G
D1016
9V
R OFF
B.OUT
G.OUT
R.OUT
H.DRIVE
50/60
H.BLK
R1097 100
R1100 100
R1104 100
R1089 220
Q1019
R1102 22.0k
R1088 240
R1093 10.0k
Y.SYNC
R1063 8.2k
R1065 8.2k
R1069 8.2k
R1035 330
C1015 220.0k
D1007
D1009
D1010
RD5.1ESB3
R1081 680
C1070 4700p
C1190 47p
D1104
R1239 82.0k
C1119 0.47/50
C1118 0.47/50
C1035 0.01
C1036 10/50
C1167 4700p
C1168 100/25
R1058 2.2k
R1059 1.8k
R1064 1.8k
R1066 1.8k
C1016 0.68/50
C1037 220p
R1336 330.0k
R1054 330.0k
C1038 1000p
R1057 30.0k
T BLK
TEXT B
TEXT G
TEXT R
C1046
C1048
C1052
C1057 0.1
C1055
C1185 1000p
C1186 1000p
C1059 0.1
C1184 1000p
D1011
R1077 15k
C1069 0.22
C1189 2200p
C1071 0.01
X1003 ASS1019
R1091 470
R1096 10.0k
IC1003
TA8759BN
R1101 5.6k
C1187 220p
C1099 0.022 M
C1100 82p
C1079 1.0
C1188 0.01
C1043 0.01
C1007 100/25
C1125 68p
L1014
R1226 10.0k
C1026 180p
C1032 180p
C1050 0.01
C1056 0.01
C1062 0.039
X1001 ASS1091
X1002 ASS1092
R1092 10.0k
R1103 1.0k
R-Y Det
L1008 ATG1027
C1053 47p
R1073 2.2M
C1068 0.01
SECAM Ref Coil
C1072 22p
L1010 ATG1026
C1073NP 2.2/50
R1106 3.3k
C1077 39p
C1080 33p
C1033 7p
R1051 1.2k
R1056 2.4k
C1042 8p
C1044 22p
C1067 27p
R1099 2.2M
C1078 0.056
C1076 12p
C1019 0.47/50
C1025 100/25
C1023 0.1
VR1001 ACP1039-A 470
R1055 2.2k
L1006 ATG1009
DL1001 ATN1036
R1067 390
C1183 0.01
L1009 LAU8R2K 8.2
Q1006
R1282 10k
R1284 2.2k
R1283 10k
Q1005
R1281 1.5k
C1051 0.01
R1279 1k
R1070 2.2k
R1280 2.2k
R1076 2.2M
C1066 0.056
R1085 1.8k
R1090 1.2k
C1075 0.01
C1034 0.01
PAL Adj.
B.OUT

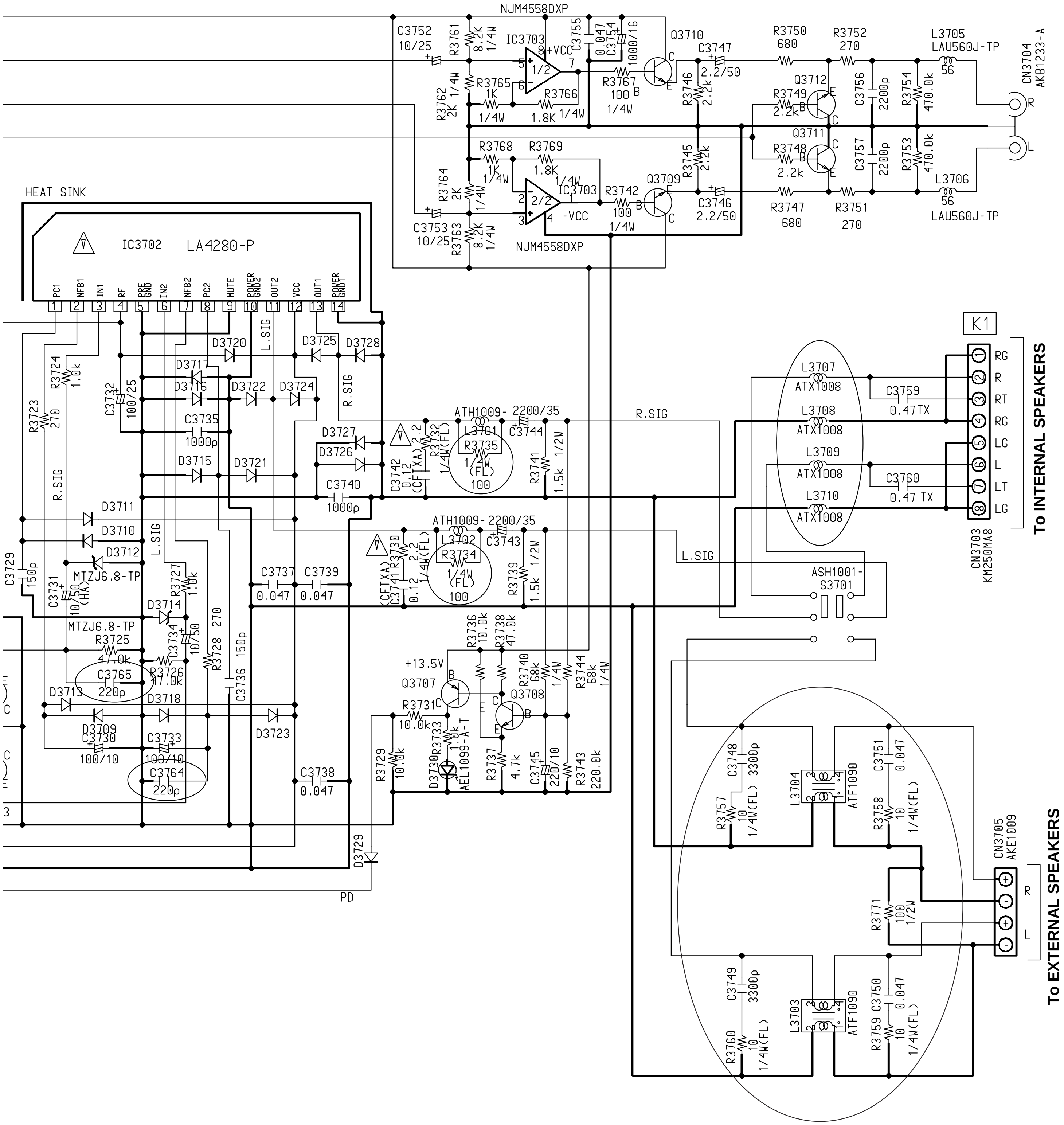
2.6 VIDEO • UCOM ASSY (2/2)


VIDEO • UCOM ASSY (2/2)
(AWV1566)
UCOM BLOCK
5VSTB
TP3302
GND
TP3301
A CONNECTOR ASSY
H2 (⬆ SCH–17)
U8
CPU RST
RELAY
+35V
A.GND
AC CLK
P.GND
12VSTB
P.D.
CN3305 KM200TA8
FRONT CONTROL ASSY
B1 (⬆ SCH–18)
U2
5VSTB
+13.5V
GND
DPO
KEY
RMC
CN3301 KM250MA6
AUDIO ASSY
(⬆ SCH–10)
K3
U5
A.GND
+35V
P.D.
+13.5V
L
GND
R
CN3303 KP250NA7
K2
AMUTE
SDA
SCL
5VSTB
CN3304 KP250NA4
U6
VIDEO BLOCK
L
GND
R
E2P RST
J3301 DHH04-200-2651
To AV I/O ASSY
TELETEXT
BLOCK
RST3
CONVERGENCE ASSY
C2 (⬆ SCH–11)
V BLK
H BLK
MODE1
MODE2
MODE3
CLK
CONV.MUTE
DATA
CONV.ENB
SCL2
SDA2
CN3302 KM250MA11
U4
TC4094BP
IC3305
EXPANDER 2
TC4094BP
IC3304
EXPANDER 1
STB
DATA
CLK
TRPO
B/W
S/COMP
VNR
GND
Vcc
OE
SW3
SW2
TRP
SW1
ACL SW
B/G
D/K/L
4:3
DS
MODE2
MODE3
Qs
PD5468
IC3301
HSYNC
VSYNC
P40/AD4
P41/INT2
P43/TIM2
P43/TIM3
P24/AD3
P25/AD2
P26/AD1
P27
P00/PWM4
P50/PWM7
P01/PWM5
P47
P02/PWM6
P51
P17/SIN
P32
P44/INT1
P56
P45/SOUT
P57
P46/SCLK
AVcc
HLF
RVCO
VHOLD
CVIN
CNVSS
XIN
XOUT
VSS
H BLK
V BLK
DPO
REMOTE
AC CLK
H SYNC
TV ENB
CHROMA LOCK
COL 1
COL 0
COLOR
BRITE
CONTRAST
GATE ENB
SHARPNESS
RGB SW
CONV.ENB
CONV.MUTE
KEY
RST2
50/60
EXP.ST
OPTION
X3301
ASS1015-
<AC CLK>
<RMC>
<DPO>
<KEY>
(RS)
1
2
3
4
A
B
C
D


VIDEO BLOCK
AV I/O ASSY (1/2)
A10 (⬆ SCH-3)
TRP1
+13.5V
+5V
Y MUTE
V MUTE
V BLK
H BLK
COLOR
TINT
BRITE
CONTRAST
SHARPNESS
OSD-R
OSD-G
OSD-B
OSD BLK
50/60
R-OFF
G-OFF
B-OFF
TEST CROSS
SW1
SW2
SW3
ACL SW
4:3
DS
VNR
TRP0
TRP1
S/COMP
B/W
V BLK2
GATE ENB
DATA2
CLK
SDA
SCL
RST2
RGB SW
ON MUTE
TXT RST
TV VMUTE
TV AMUTE
D/K/L
B/G
H SYNC
TV ENB
CLK
DATA
SCL
SDA
WIDE
AV1 SW
RELAY
MSP CL
5VSTB
CN3306
KP250NA15
U13
IC3301
PD5468
IC3302
MC34064P
IC3303
AT24C16-10PC
Q3328
2SC2878-T
A/B C
R3422
3.3 (FL)
D3396
<COLOR>
<TINT>
<BRITE>
<CONT>
<SHARP>
<RGB SW>
<ON MUTE>
<COL1>
<C.LOCK>
<COL0>
<SW1>
<SW2>
<SW3>
L3301
ACM-020

2.7 AUDIO ASSY

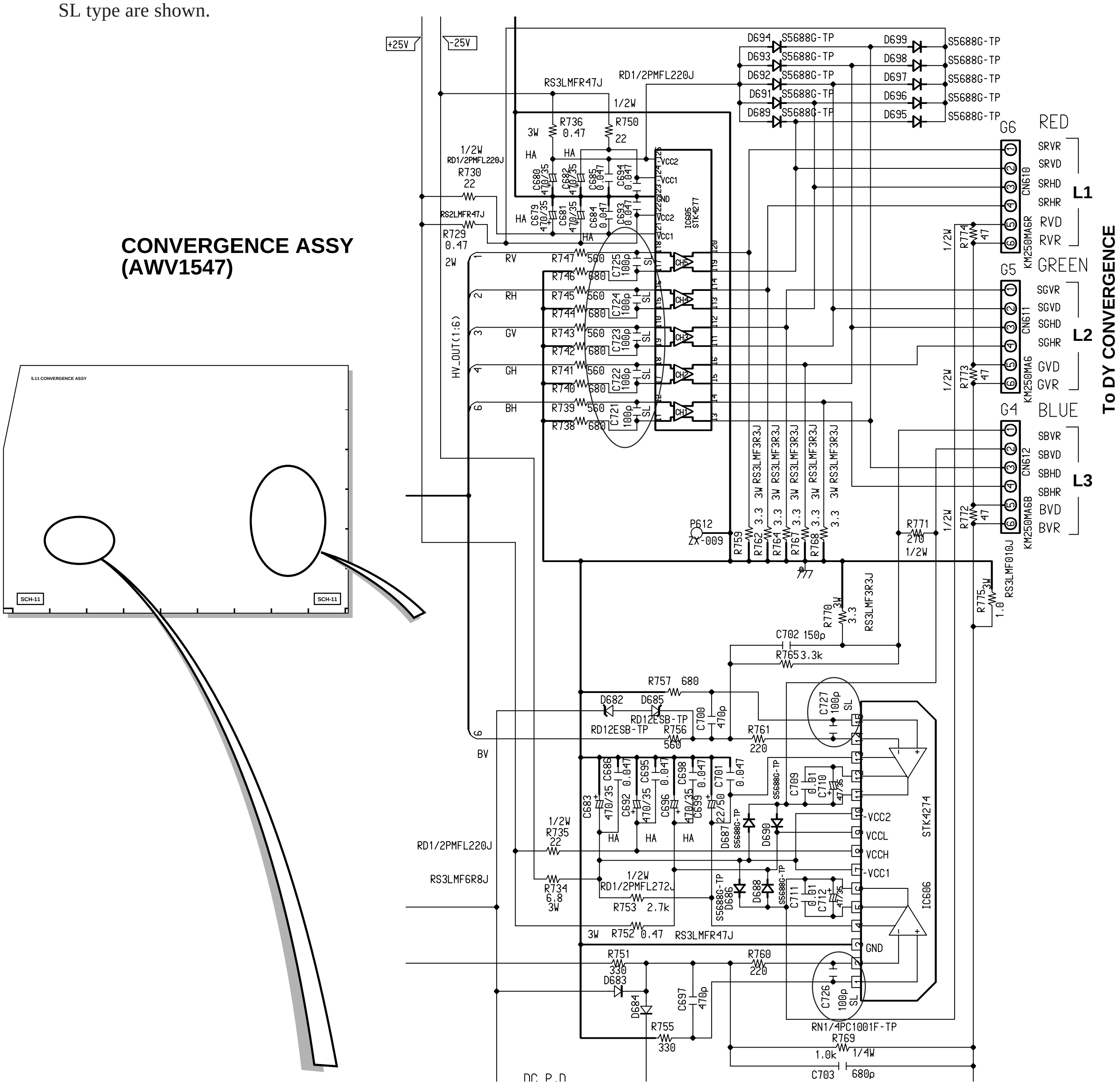

AUDIO ASSY
(AWZ6123)
VIDEO • UCOM ASSY (2/2) U5
(⬆ SCH–6)
CN3702
KM250NA7L
R
GND
L
+13.5V
P.D.
+35V
A.GND
K3
D3733
R3770
22(FL)
1/4W
VIDEO • UCOM ASSY (2/2) U6
(⬆ SCH–6)
K2
A.MUTE
SDA
SCL
5VSTB
CN3701
KM250NA4L
D3731 D3732
RD8.2ESB-TP
HEAT SINK
PC1
NFB1
IN1
R3756
12.0k
R3755
12.0k
C3763
220p
R3707
10.0k
R3710
10.0k
C3762
220p
D3706
D3705
D3708
D3707
R3705
820.0k
C3705
0.082
C3708
680p
C3710
2.2/50
C3713
2.2/50
C3714
1.0/50
C3716
22/50
R3713 100
R3714 100
C3721
3.3/50
C3723
3.3/50
IC3701
uPC1853CT-01
LFI
LFO
LF1
R IN
L IN
OFC
1/2VCC
D.GND
ADS
SDA
SCL
BAL-C
VOL-C
L2 OUT
R2 OUT
A.GND
FC1
FC2
FC3
FC4
LF2
RTC
RBC
LTC
LBC
RearOUT
L+R OUT
R1 OUT
L1 OUT
VCC
C3771
0.01
C3770
47/25
R3723
270
R3724
1.0k
R.SIG
C3706 0.1
C3707 2200p
C3709 0.022
C3712 0.022
C3715 1000p
C3717 6800p
C3718 0.082
C3719 6800p
C3720 0.082
R3715 220
R3716 220
C3722 1500p
C3724 1500p
R.SIG
L.SIG
C3727 0.047
C3728 47/25 (HA)
C3729 150p
C3731 10/50 (HA)
MTZJ6.8
D3703
D3702
D3704
R3706
10.0k
D3701
RD5.6ESB3-TP
C3711 0.01
R3712 10.0k
R3711 47.0k
Q3701
Q3702
R3708
18.0k
D3734
R3709
100.0k
Q3713
C3726
2.2/50
R3719
4.7k
R3718
100.0k
R3722
2.2k
Q3704
R3717
100.0k
R3721
2.2k
Q3703
C3725
2.2/50
R3720
4.7k
D3713
C3730
100/1
270
1/2W
R3701
C3701
560p
Q3705
2SD1276A
5.6k
R3702
R3704
30.0k
1/4W
C3703
10/50
Q3706
C3758
470/50
RD5.6ESB3-TP
D3719
C3702
0.01
R3703
6.2k
1/4W
C3704
470/50
2SC2458–T
2SA1048–T
HSS104-02–TP


NJM4558DXP
C3752
10/25
R3761
8.2k
1/4W
IC3703
8 +VCC
1/2
C3755
0.047
C3754
1000/16
Q3710
C3747
2.2/50
R3750
680
R3752
270
L3705
LAU560J-TP
56
CN3704
AKB1233-A
R
L
R3762
2K 1/4W
R3765
1K
1/4W
R3766
1.8K 1/4W
R3767
100
1/4W
R3746
2.2k
Q3712
R3749
2.2k
C3756
2200p
R3754
470.0k
Q3711
R3748
2.2k
C3757
2200p
R3753
470.0k
R3768
1K
1/4W
R3769
1.8K
1/4W
R3764
2K
1/4W
IC3703
2/2
-VCC
R3742
100
1/4W
Q3709
R3745
2.2k
C3746
2.2/50
R3747
680
R3751
270
L3706
56
LAU560J-TP
C3753
10/25
R3763
8.2k
1/4W
NJM4558DXP
HEAT SINK
IC3702
LA4280-P
PC1
NFB1
IN1
RF
PRE GND
IN2
NFB2
PC2
MUTE
POWER GND2
OUT2
VCC
OUT1
POWER GND1
1 2 3 4 5 6 7 8 9 10 11 12 13 14
D3720
L.SIG
D3725
D3728
D3717
D3716
D3722
D3724
R.SIG
R3724
1.0k
C3732
100/25
R3723
270
C3735
1000p
D3727
D3726
ATH1009-
2200/35
L3701
C3744
R3732
2.2
1/4W(FL)
R3735
1/4W
(FL)
100
R3741
1.5k
1/2W
C3742
0.12
(CFTXA)
D3715
D3721
C3740
1000p
R.SIG
D3711
D3710
D3712
MTZJ6.8-TP
(HA)
C3729
150p
C3731
10/50
ATH1009-2200/35
L3702
C3743
R3730
2.2
1/4W(FL)
R3734
1/4W
(FL)
100
R3739
1.5k
1/2W
C3741
0.12
(CFTXA)
L.SIG
R3727
1.0k
C3737
0.047
C3739
0.047
D3714
MTZJ6.8-TP
R3725
47.0k
C3734
10/50
R3728
270
C3736
150p
C3765
220p
R3726
47.0k
D3713
D3718
D3709
D3723
C3730
100/10
C3733
100/10
C3764
220p
C3738
0.047
R3736
10.0k
R3738
47.0k
+13.5V
Q3707
Q3708
R3740
68k
1/4W
R3744
68k
1/4W
R3731
10.0k
R3733
1.0k
D3730
AEL1099-A-T
R3729
10.0k
R3737
4.7k
C3745
220/10
R3743
220.0k
D3729
PD
R.SIG
L.SIG
L3707
ATX1008
L3708
ATX1008
L3709
ATX1008
L3710
ATX1008
C3759
0.47TX
C3760
0.47 TX
K1
RG
R
RT
RG
LG
L
LT
LG
CN3703
KM250MA8
To INTERNAL SPEAKERS
ASH1001-
S3701
C3748
3300p
R3757
10
1/4W(FL)
L3704
ATF1090
C3751
0.047
R3758
10
1/4W(FL)
R3771
100
1/2W
CN3705
AKE1009
R
L
To EXTERNAL SPEAKERS
C3749
3300p
R3760
10
1/4W(FL)
L3703
ATF1090
C3750
0.047
R3759
10
1/4W(FL)

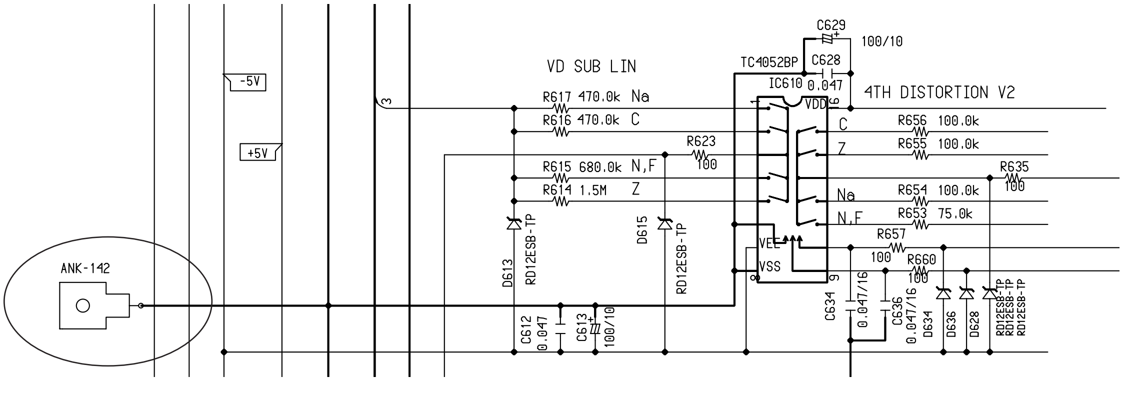
2.8 CONVERGENCE ASSY

Only the differences in the convergence assy between WYZI7/2 type and SL type are shown.

CONVERGENCE ASSY (AWV1547)



A
B
C
+25V
-25V
S.11 CONVERGENCE ASSY
SCH-11
SCH-11
D694 S5688G-TP
D693 S5688G-TP
D692 S5688G-TP
D691 S5688G-TP
D689 S5688G-TP
D699 S5688G-TP
D698 S5688G-TP
D697 S5688G-TP
D696 S5688G-TP
D695 S5688G-TP
RS3LMFR47J
RD1/2PMFL220J
1/2W
R736 0.47 3W
R750 22
HA
RD1/2PMFL220J
R730 22
RS2LMFR47J
R729 0.47 2W
C680 470/35
C682 470/35
C685 0.047
C694 0.047
C679 470/35
C681 470/35
C684 0.047
C693 0.047
VCC2
VCC1
GND
IC605 STK4277
HV_OUT(1:6)
RV RH GV GH BH
R747 560
R746 680
R745 560
R744 680
R743 560
R742 680
R741 560
R740 680
R739 560
R738 680
C725 100p SL
C724 100p SL
C723 100p SL
C722 100p SL
C721 100p SL
CH5 CH4 CH3 CH2 CH1
G6 RED
SRVR SRVD SRHD SRHR RVD RVR
CN610 KM250MA6R
L1
R774 47 1/2W
G5 GREEN
SGVR SGVD SGHD SGHR GVD GVR
CN611 KM250MA6
L2
R773 47 1/2W
G4 BLUE
SBVR SBVD SBHD SBHR BVD BVR
CN612 KM250MA6B
L3
R772 47 1/2W
To DY CONVERGENCE
RS3LMF3R3J 3W 3.3
R759 R762 R764 R767 R768
P612 ZX-009
R771 270 1/2W
R775 1.0 3W RS3LMF010J
R770 3.3 3W RS3LMF3R3J
C702 150p
R765 3.3k
R757 680
D682 D685
RD12ESB-TP
R756 560
C700 470p
R761 220
C727 100p SL
BV
C683 470/35
C686 0.047
C692 470/35
C695 0.047
C696 470/35
C698 0.047
C699 470/35
C701 0.047
22/50
C709 0.01
C710 47/35
D687 D690 S5688G-TP
VCC2 VCCL VCCH VCC1
STK4274
1/2W R735 22
RD1/2PMFL220J
RS3LMF6R8J
R734 6.8 3W
1/2W RD1/2PMFL272J
R753 2.7k
D686 D688 S5688G-TP
C711 0.01
C712 47/35
IC606
3W R752 0.47 RS3LMFR47J
GND
R751 330
D683
R760 220
C726 100p SL
D684
C697 470p
R755 330
RN1/4PC1001F-TP
R769 1.0k 1/4W
C703 680p
DC P.D

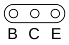
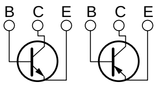
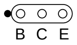
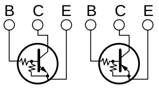
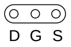
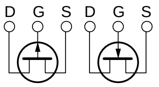
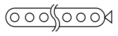
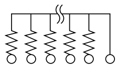


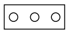
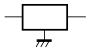
D
C629 100/10
C628 0.047
TC4052BP
IC610
VD SUB LIN
4TH DISTORTION V2
-5V
+5V
R617 470.0k Na
R616 470.0k C
R623 100
R615 680.0k N,F
R614 1.5M Z
VDD
VEE
VSS
C Z Na N,F
R656 100.0k
R655 100.0k
R635 100
R654 100.0k
R653 75.0k
R657 100
R660 100
D613 RD12ESB-TP
D615 RD12ESB-TP
ANK-142
C612 0.047
C613 100/10
C634 0.047/16
C636 0.047/16
D634 D636 D628
RD12ESB-TP

3. PCB CONNECTION DIAGRAM

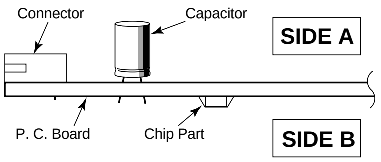
NOTE FOR PCB DIAGRAMS:

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array

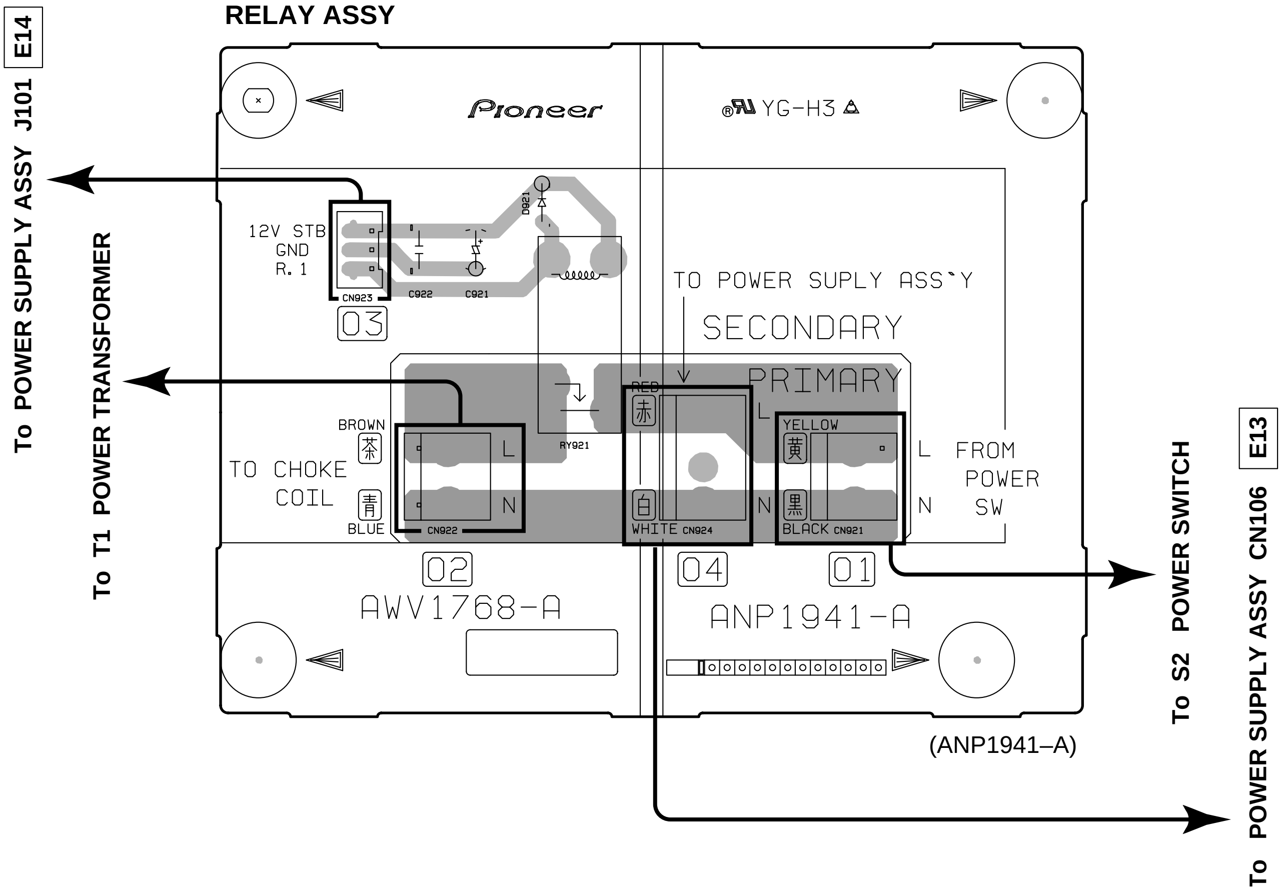
Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destination.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. Viewpoint of PCB diagrams


Connector
Capacitor
SIDE A
P. C. Board
Chip Part
SIDE B

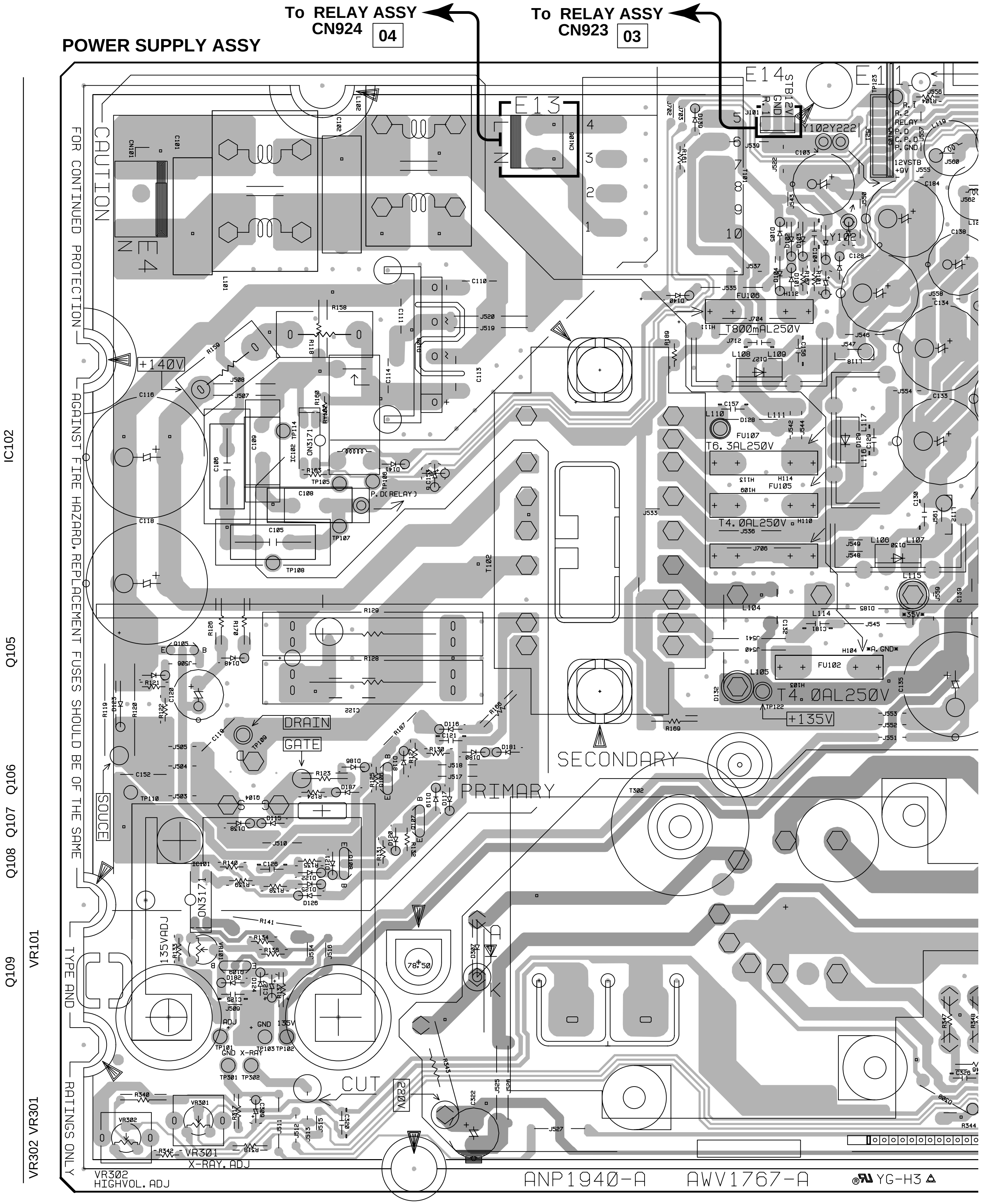
3.1 RELAY ASSY

SIDE A

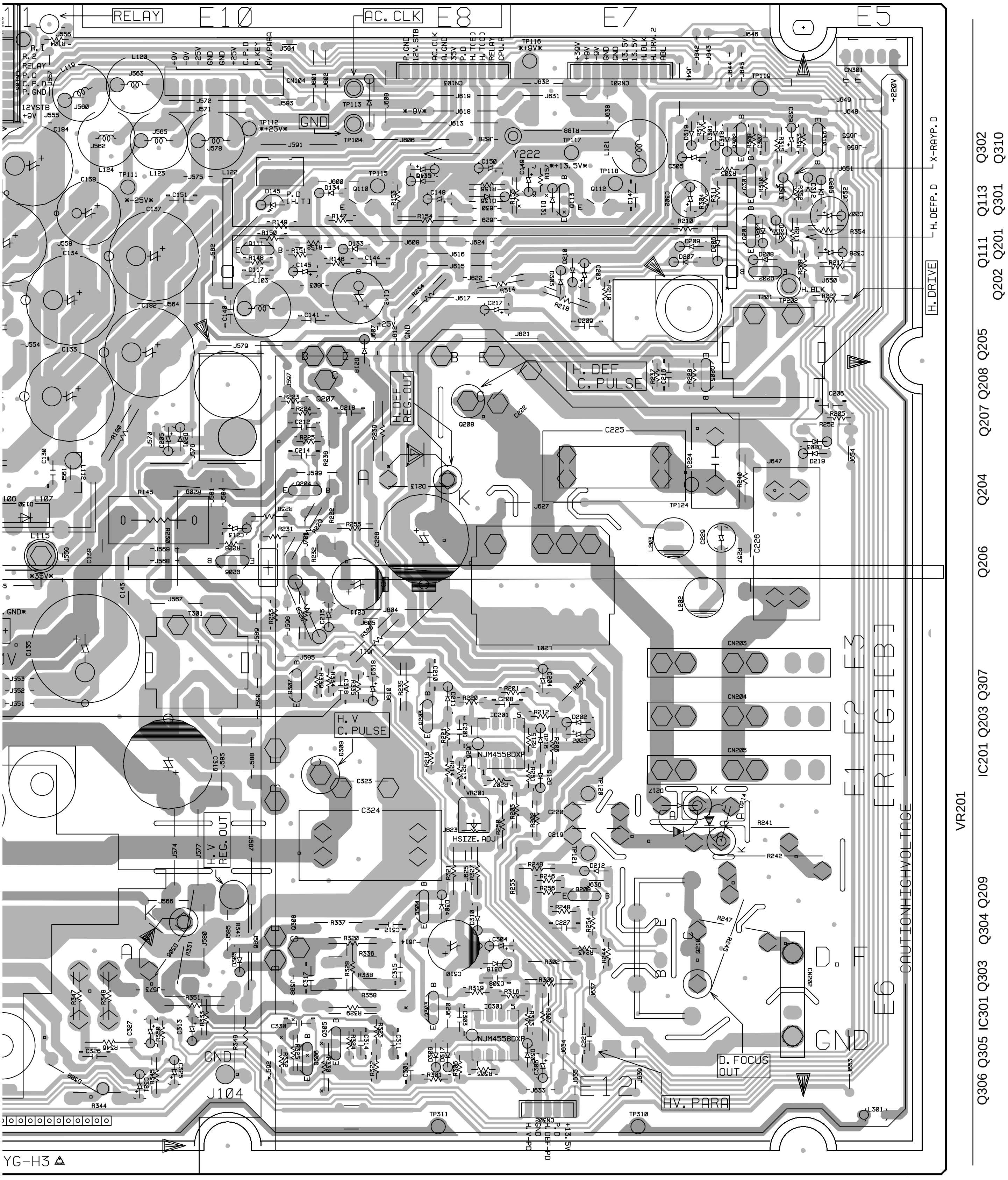

RELAY ASSY
E14
To POWER SUPPLY ASSY J101
To T1 POWER TRANSFORMER
Pioneer
YG-H3
12V STB
GND
R. 1
CN923
C922
C921
D921
03
TO POWER SUPLY ASS`Y
SECONDARY
PRIMARY
RED 赤
L
RY921
BROWN 茶
TO CHOKE COIL
BLUE 青
L
N
CN922
白 WHITE CN924
N
YELLOW 黄
黒 BLACK CN921
L
N
FROM POWER SW
02
04
01
AWV1768-A
ANP1941-A
E13
To S2 POWER SWITCH
To POWER SUPPLY ASSY CN106

(ANP1941–A)

3.2 POWER SUPPLY ASSY

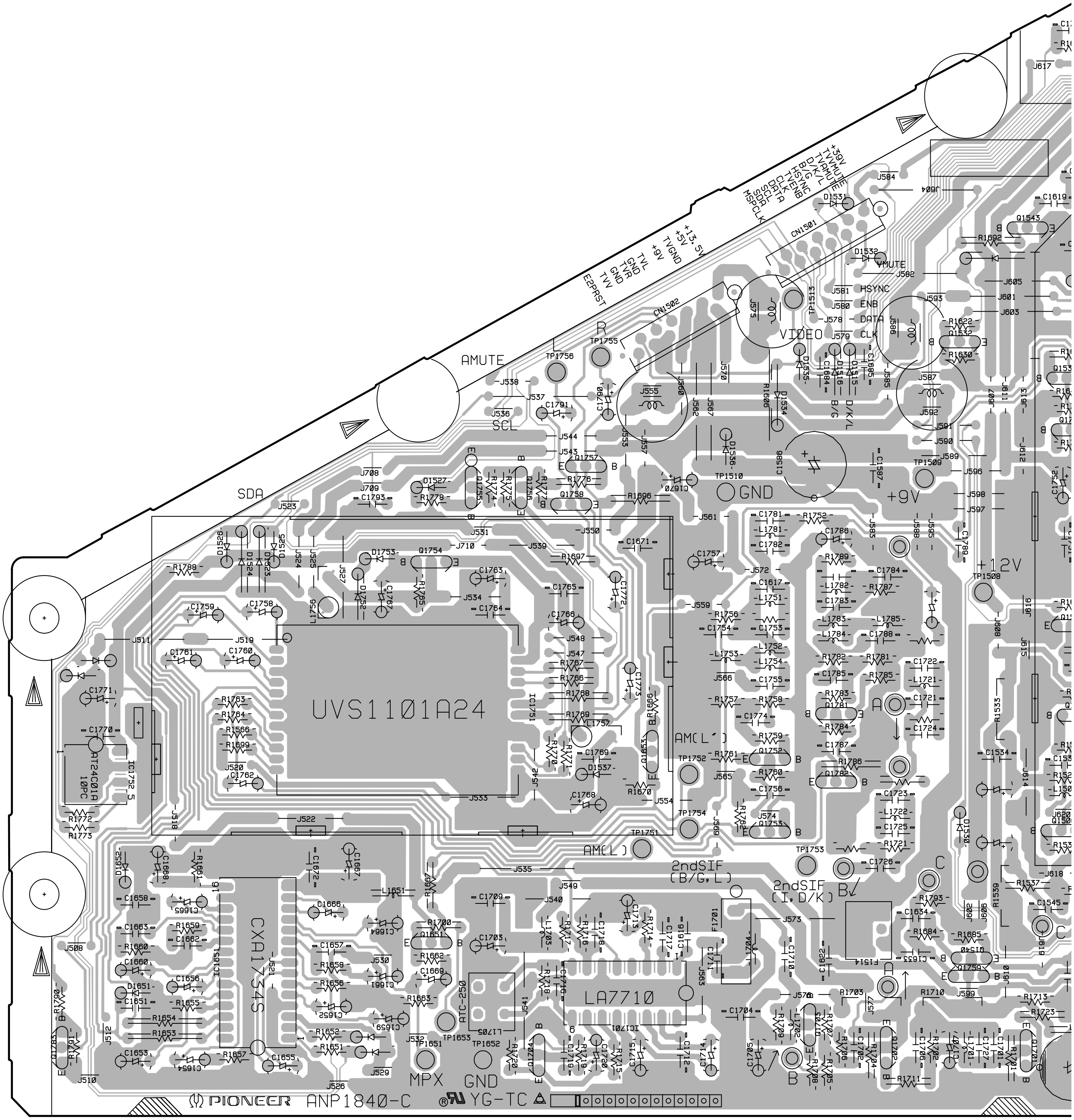

To RELAY ASSY
CN924
04
To RELAY ASSY
CN923
03
POWER SUPPLY ASSY
IC102
Q105
Q106
Q107
Q108
Q109
VR101
VR302 VR301
CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACEMENT FUSES SHOULD BE OF THE SAME TYPE AND RATINGS ONLY
E13
E14
E11
E4
CN101
CN108
STB12V
GND
R.1
R.1
R.2
RELAY
P.D
C.P.D
P.GND
12VSTB
+9V
+140V
FU106
T800mAL250V
FU107
T6.3AL250V
FU105
T4.0AL250V
FU102
T4.0AL250V
+135V
35V
A.GND
DRAIN
GATE
SOUCE
P.D(RELAY)
SECONDARY
PRIMARY
T102
T302
135VADJ
ADJ
GND
135V
X-RAY
CUT
220V
78.50
VR301
X-RAY.ADJ
VR302
HIGHVOL.ADJ
ANP1940-A
AWV1767-A
YG-H3

SIDE A


RELAY
E10
AC.CLK
E8
E7
E5
GND
H.DRIVE
H.DEF
C.PULSE
H.DEF
REG.OUT
H.V
C.PULSE
H.V
REG.OUT
HSIZE.ADJ
NJM4558DXP
D.FOCUS
OUT
HV.PARA
E12
E1 E2 E3
[R][G][B]
E6
CAUTIONHIGHVOLTAGE
D.F
GND
J104
YG-H3
X-RAYP.D
H.DEFP.D
H.BLK
CN301
CN302
CN203
CN204
CN205
IC201
IC301
VR201
T201
T301
TP202
TP124
TP121
TP310
TP311
Y222
C225
C224
C226
C324
Q302 Q310
Q113 Q301
Q111 Q201
Q202
Q205
Q208
Q207
Q204
Q206
Q307
IC201 Q203
VR201
Q209
Q304
Q303
IC301 Q305
Q306

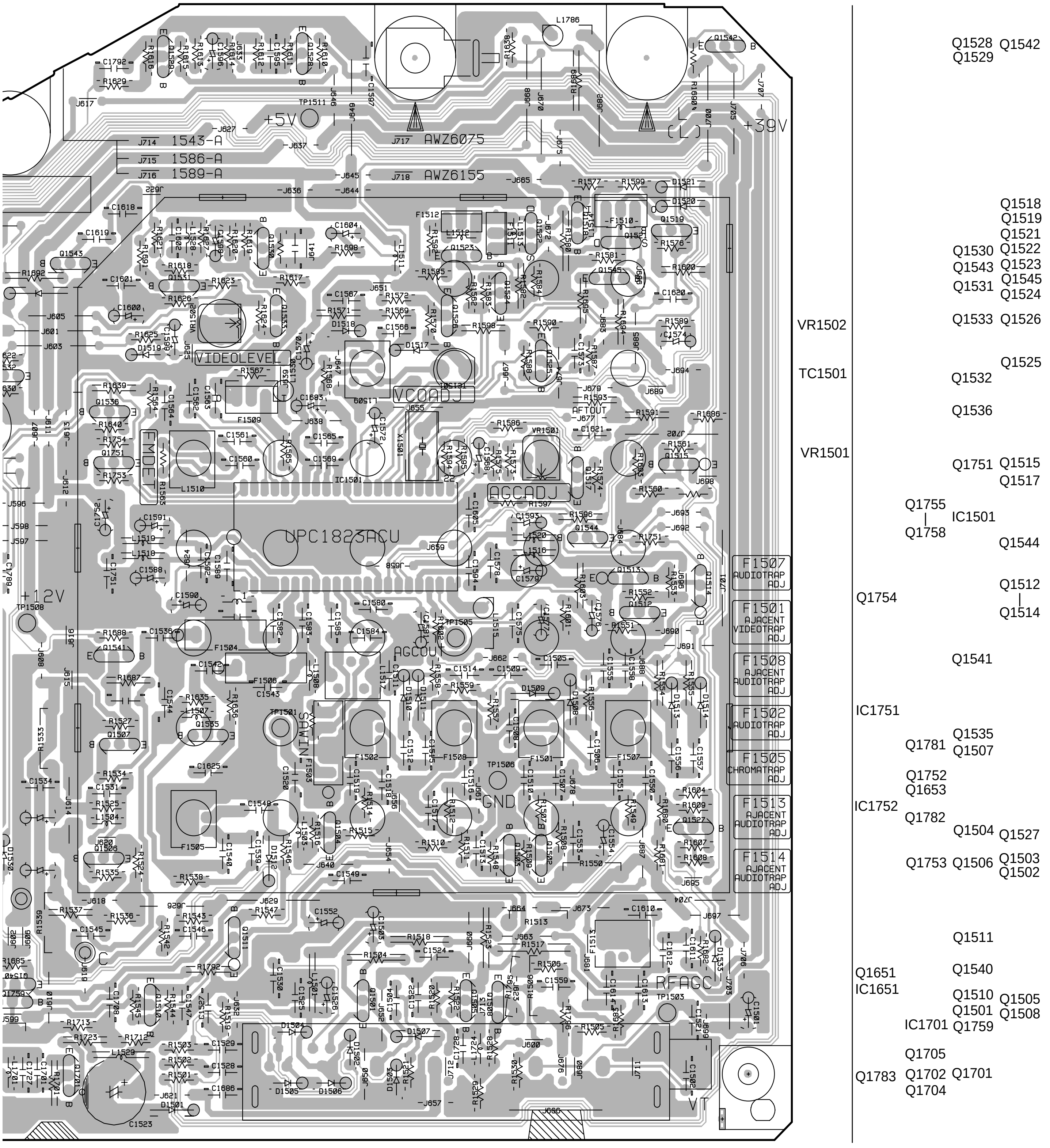
(ANP1940–A)

3.3 TUNER ASSY


+30V
TVMUTE
TVAMUTE
D/K/L
B/G
HSYNC
TVENB
CLK
DATA
SCL
SDA
MSPCLK
+13.5V
+5V
TVGND
+9V
TVL
GND
TVR
GND
TVV
E2PRST
CN1501
CN1502
VMUTE
HSYNC
ENB
DATA
CLK
VIDEO
R
AMUTE
SCL
SDA
GND
+9V
+12V
UVS1101A24
IC1751
AT24C01A
10PC
IC1752
CXA1734S
IC1651
LA7710
IC1701
ATC-250
AM(L')
AM(L)
2ndSIF
(B/G,L)
2ndSIF
(I,D/K)
MPX
GND
A
B
C
PIONEER
ANP1840-C
YG-TC

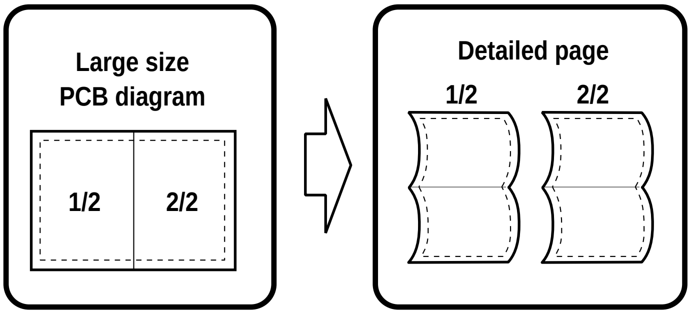
SIDE A

TUNER ASSY

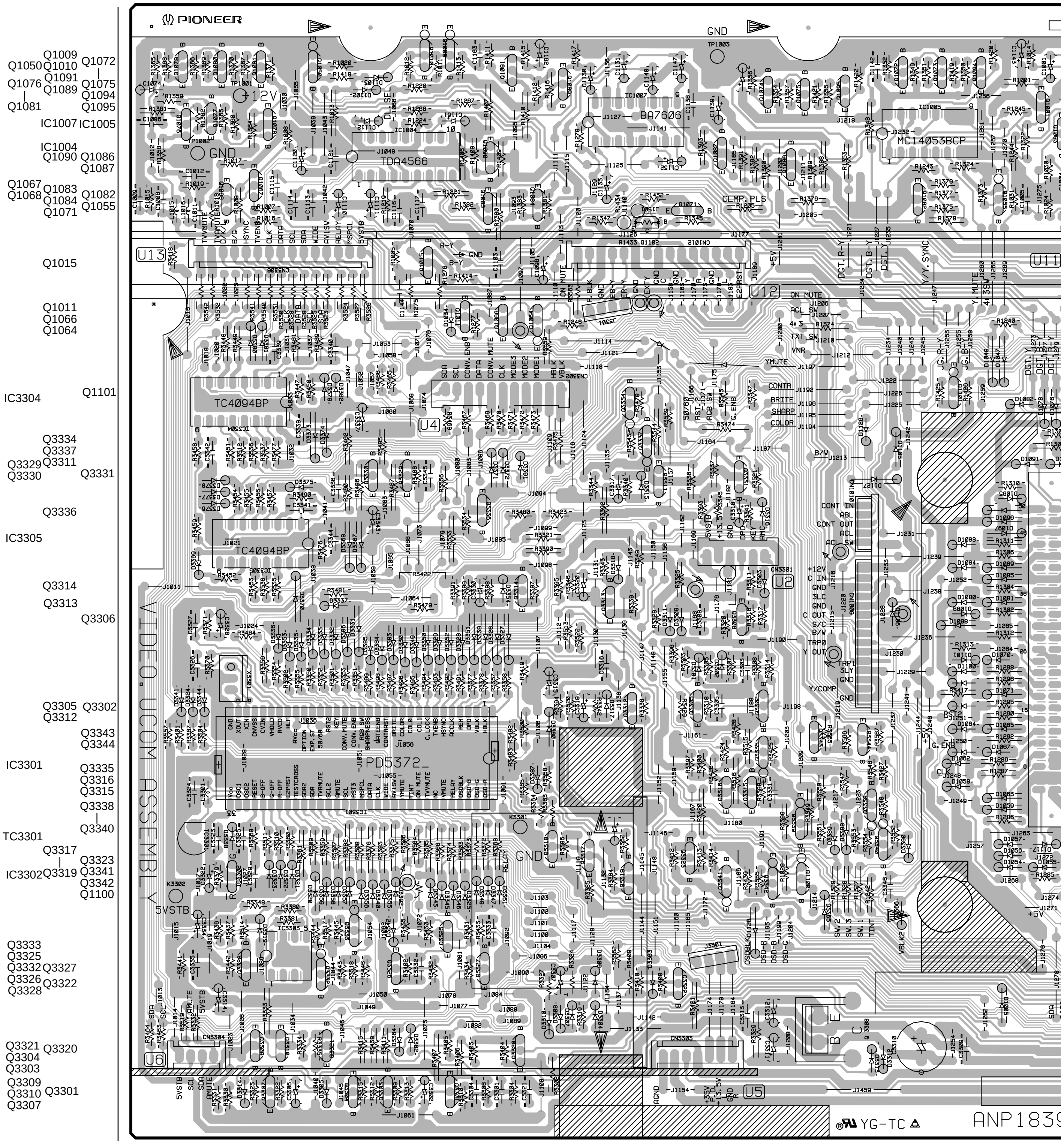

+5V
+39V
AWZ6075
AWZ6155
1543-A
1586-A
1589-A
VIDEOLEVEL
VCOADJ
AFTOUT
AGCADJ
FMDET
UPC1823ACU
+12V
AGCOUT
GND
RFAGC
VT
F1507 AUDIOTRAP ADJ
F1501 AJACENT VIDEOTRAP ADJ
F1508 AJACENT AUDIOTRAP ADJ
F1502 AUDIOTRAP ADJ
F1505 CHROMATRAP ADJ
F1513 AJACENT AUDIOTRAP ADJ
F1514 AJACENT AUDIOTRAP ADJ
Q1528 Q1542
Q1529
Q1518
Q1519
Q1521
Q1530 Q1522
Q1543 Q1523
Q1545
Q1531 Q1524
Q1533 Q1526
VR1502
Q1525
TC1501 Q1532
Q1536
VR1501
Q1751 Q1515
Q1517
Q1755 | Q1758
IC1501
Q1544
Q1512 | Q1514
Q1754
Q1541
IC1751
Q1535
Q1781 Q1507
Q1752
Q1653
IC1752
Q1782
Q1504
Q1527
Q1753 Q1506 Q1503
Q1502
Q1511
Q1540
Q1651
IC1651
Q1510 Q1505
Q1501 Q1508
IC1701 Q1759
Q1705
Q1783 Q1702 Q1701
Q1704

(ANP1840–C)

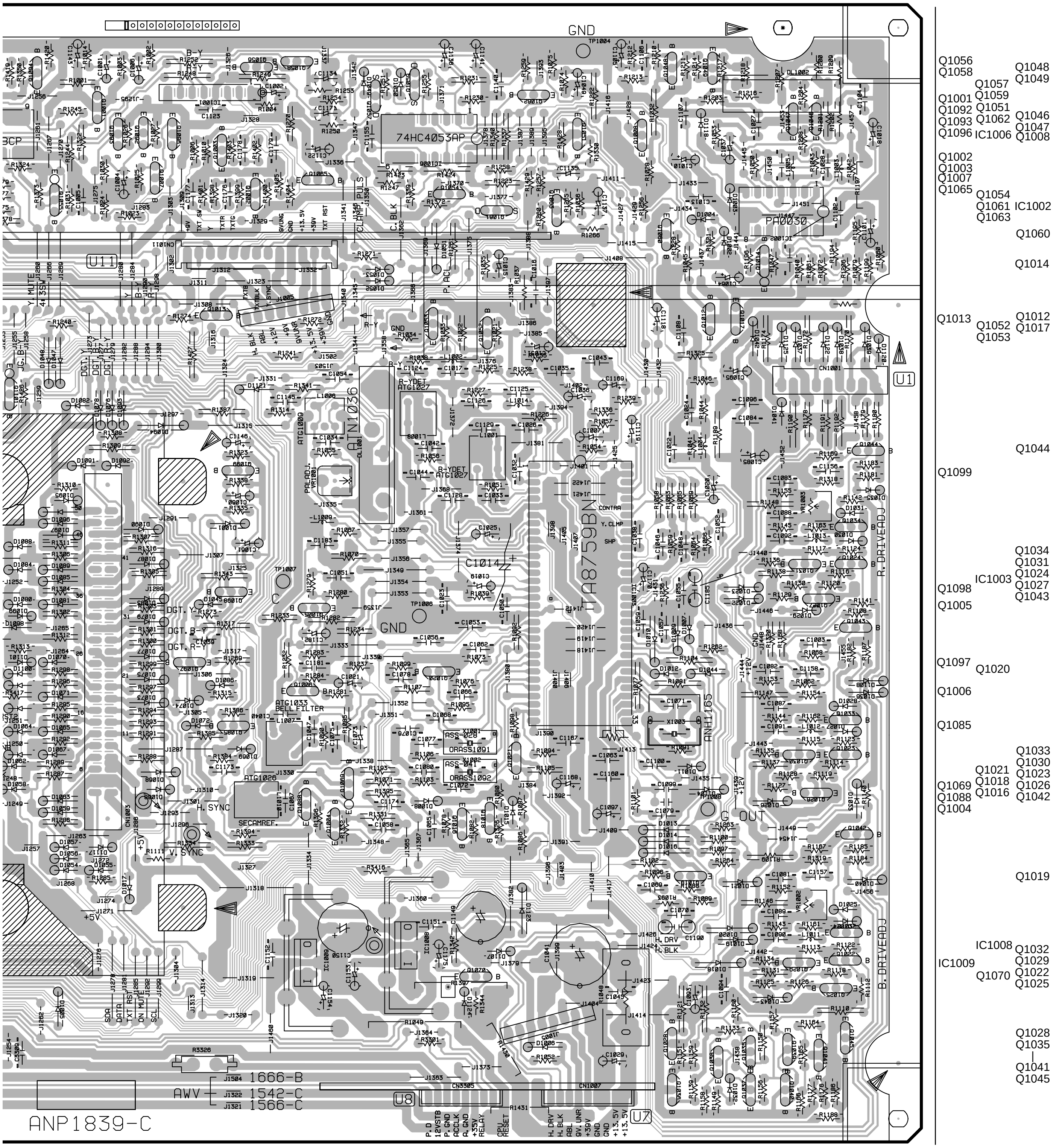
3.4 VIDEO • UCOM ASSY


Large size
PCB diagram
1/2
2/2
Detailed page
1/2
2/2

VIDEO • UCOM ASSY


A
B
C
D
Q1009
Q1050 Q1010
Q1072
Q1091
Q1076 Q1089
Q1075
Q1094
Q1081
Q1095
IC1007 IC1005
IC1004
Q1090 Q1086
Q1087
Q1067 Q1083
Q1082
Q1068 Q1084
Q1055
Q1071
Q1015
Q1011
Q1066
Q1064
Q1101
IC3304
Q3334
Q3337
Q3329 Q3311
Q3330
Q3331
Q3336
IC3305
Q3314
Q3313
Q3306
Q3305 Q3302
Q3312
Q3343
Q3344
IC3301
Q3335
Q3316
Q3315
Q3338
Q3340
TC3301
Q3317
Q3323
IC3302 Q3319
Q3341
Q3342
Q1100
Q3333
Q3325
Q3332 Q3327
Q3326
Q3322
Q3328
Q3321 Q3320
Q3304
Q3303
Q3309
Q3310 Q3301
Q3307
PIONEER
GND
TP1003
+12V
TDA4566
BA7606
MC14053BCP
CLMP.PLS
TC4094BP
PD5372
VIDEO.UCOM ASSEMBLY
5VSTB
U2
U4
U5
U6
U11
U12
U13
ANP1839
YG-TC

SIDE A


A
B
C
D
GND
74HC4053AP
TA8759BN
PA0030
ANH1165
ATN1036
ATG1009
ATG1027
ATG1026
ATC1033
BELL FILTER
SECAMREF.
H. SYNC
V. SYNC
DGT. Y
DGT. B-Y
DGT. R-Y
R.DRIVEADJ
B.DRIVEADJ
G OUT
H. DRV
H. BLK
CONTRA
Y. CLMP
SHP
U1
U7
U8
U11
CN1001
CN1007
CN3305
AWV
J1504 1666-B
J1322 1542-C
J1321 1566-C
ANP1839-C
P.D
12VSTB
P GND
ACCLK
A.GND
+35V
RELAY
CPU RESET
H. DRV
H. BLK
ABL
9V. UNR
+39V
GND
GND
+13.5V
+13.5V
SDA
DATA
TXT RST
ON MUTE
SCL
+5V
Q1056
Q1058
Q1057
Q1059
Q1048
Q1049
Q1001
Q1092
Q1093
Q1096
Q1051
Q1062
IC1006
Q1046
Q1047
Q1008
Q1002
Q1003
Q1007
Q1065
Q1054
Q1061
Q1063
IC1002
Q1060
Q1014
Q1013
Q1052
Q1053
Q1012
Q1017
Q1044
Q1099
Q1098
Q1005
IC1003
Q1034
Q1031
Q1024
Q1027
Q1043
Q1097
Q1020
Q1006
Q1085
Q1069
Q1088
Q1004
Q1021
Q1018
Q1016
Q1033
Q1030
Q1023
Q1026
Q1042
Q1019
IC1009
IC1008
Q1070
Q1032
Q1029
Q1022
Q1025
Q1028
Q1035
Q1041
Q1045

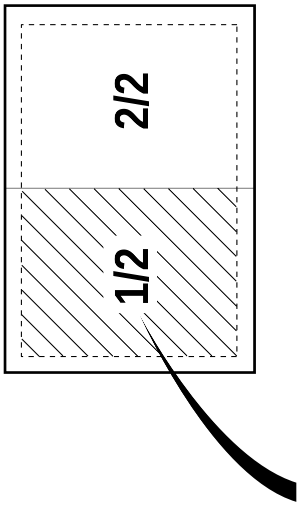
(ANP1839–C)

A

B

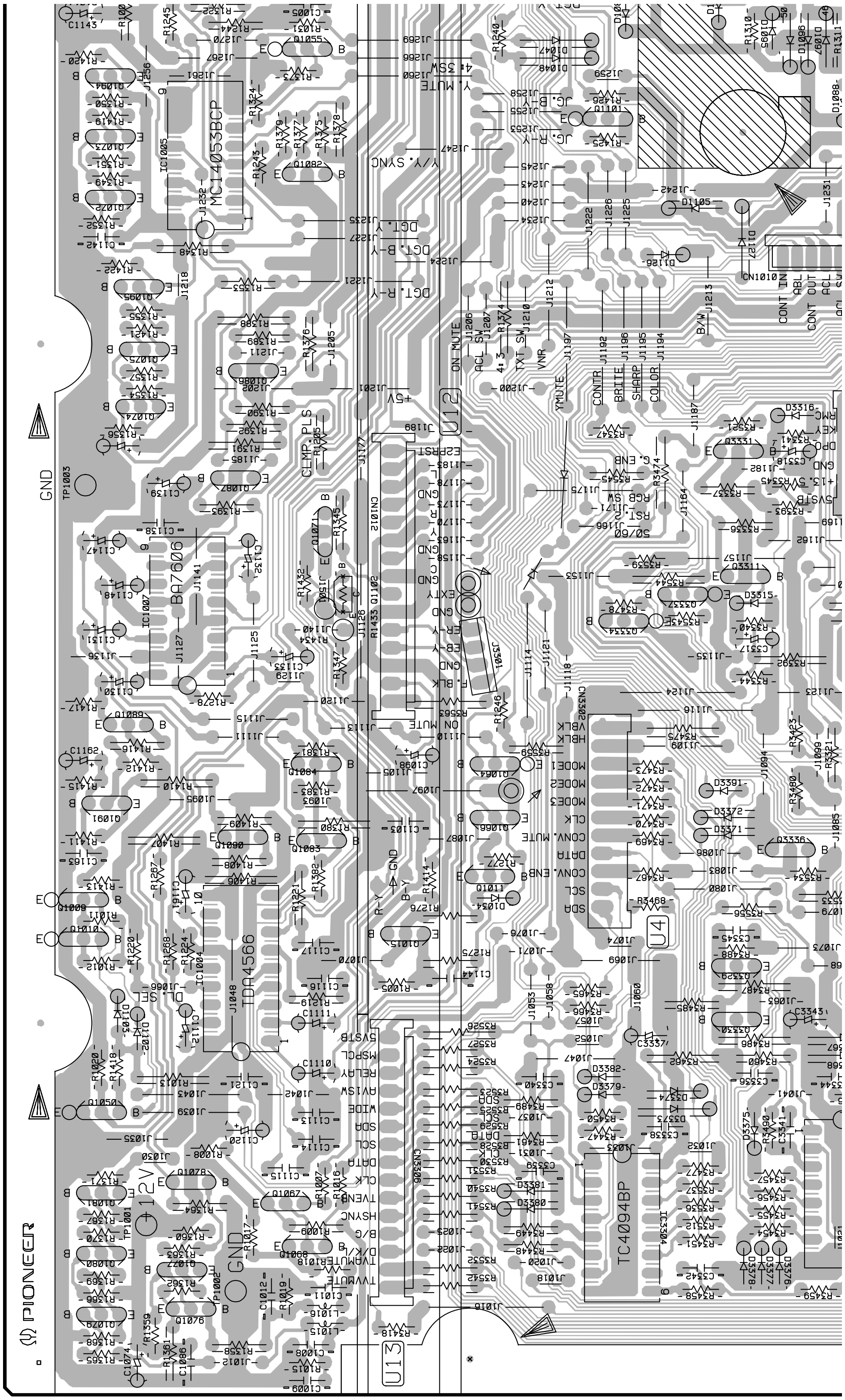
C

D



SIDE A

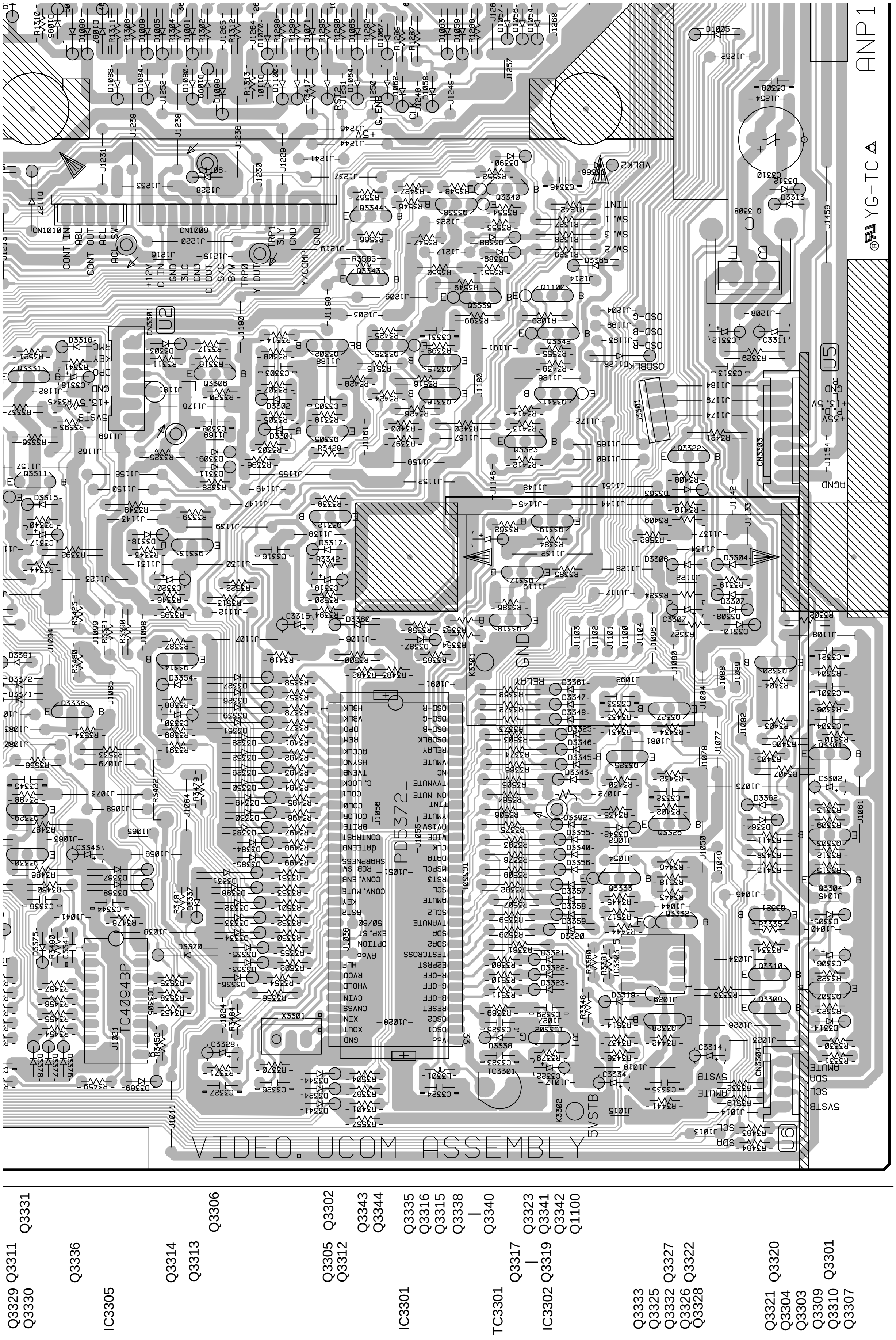
VIDEO • UCOM ASSY


PIONEER
GND
TC4094BP
TDA4566
BA7606
MC14053BCP
U12
U13
U4

Q1072 – Q1075 Q1094 Q1095 IC1005 Q1086 Q1087 Q1082 Q1055 Q1101 Q3331

Q1009 Q1010 Q1091 Q1089 IC1007 IC1004 Q1090 Q1083 Q1084 Q1071 Q1015 Q1011 Q1066 Q1064 Q3334 Q3337 Q3311 Q3336

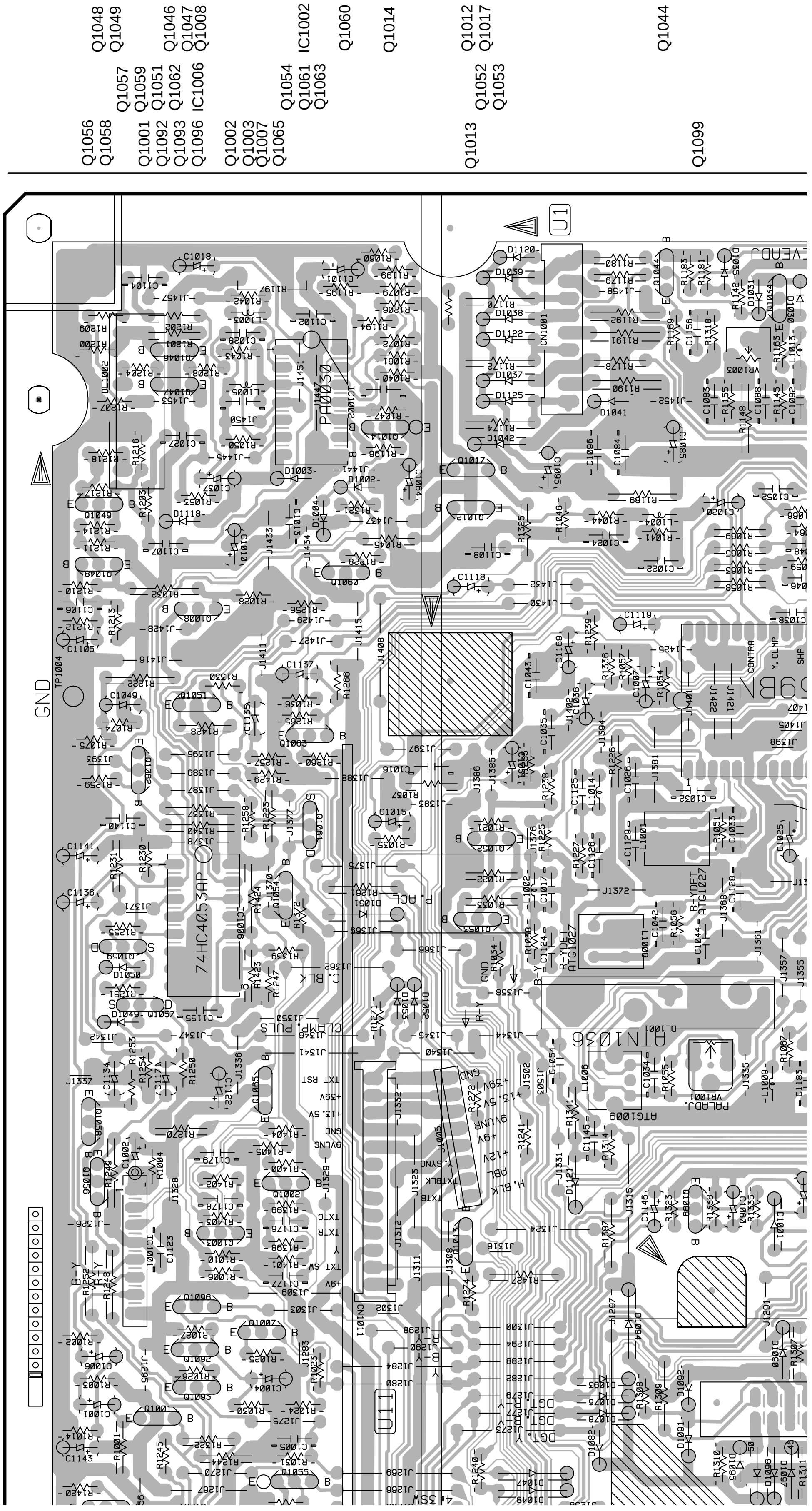
Q1050 Q1076 – Q1081 Q1067 Q1068 IC3304 Q3329 Q3330 IC3305


VIDEO, UCOM ASSEMBLY
ANP1
YG-TC
PD5372
TC4094BP
IC3301
IC3305
U2
U5
U6
A
B
C
D
Q3331
Q3306
Q3302
Q3343 Q3344
Q3335 Q3316 Q3315 Q3338 — Q3340
Q3323 Q3341 Q3342 Q1100
Q3329 Q3311 Q3330
Q3336
IC3305
Q3314 Q3313
Q3305 Q3312
IC3301
TC3301
Q3317 — Q3319
IC3302
Q3333 Q3325 Q3332 Q3326 Q3328 Q3327 Q3322
Q3321 Q3304 Q3303 Q3309 Q3310 Q3307 Q3320 Q3301

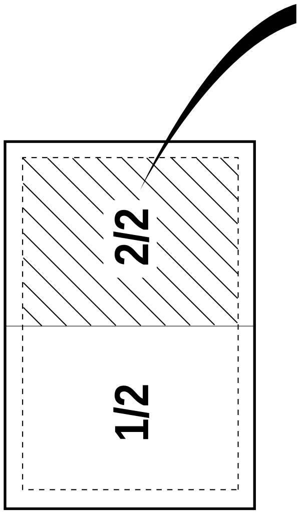
A

SIDE A

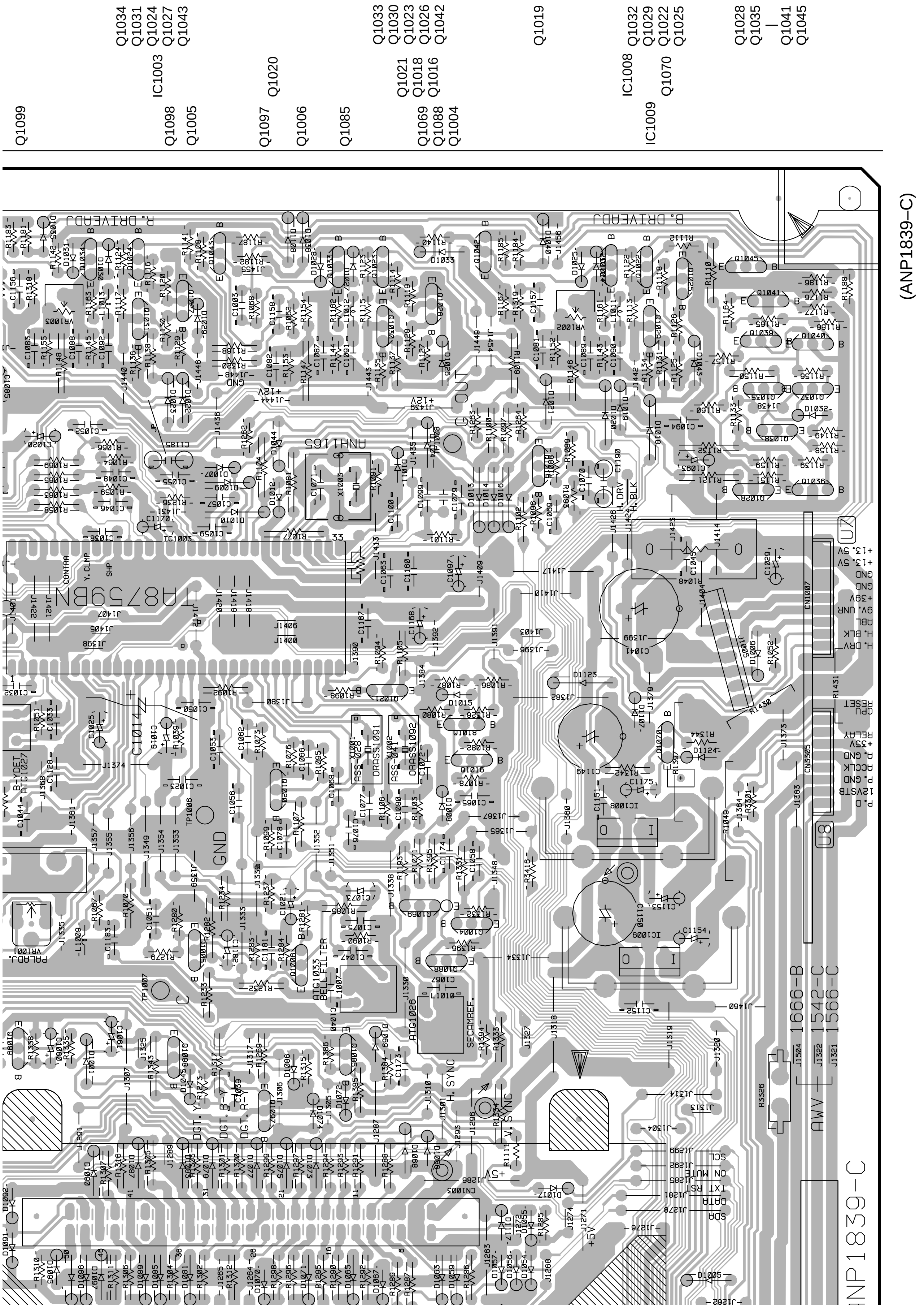
B


Q1048
Q1049
Q1046
Q1047
Q1008
IC1002
Q1060
Q1014
Q1012
Q1017
Q1044
Q1057
Q1059
Q1051
Q1062
IC1006
Q1054
Q1061
Q1063
Q1052
Q1053
Q1056
Q1058
Q1001
Q1092
Q1093
Q1096
Q1002
Q1003
Q1007
Q1065
Q1013
Q1099
U1
CN1001
IC1002
GND
TP1004
74HC4053AP
IC1006
C.BLK
CLAMP PULS
P.ACL
R-Y
B-Y
GND
R-YDET
ATG1027
B-YDET
ATG1027
ATN1036
DL1001
IC1001
CN1011
TXT RST
+33V
+13.5V
GND
9VUNG
TXTBLK
TXTB
TXTG
TXTR
Y
TXT SW
+9V
U11
VR1001
PALADJ.
ATG1009
CONTRA
Y.CLMP
SHP
DGT.R-Y
DGT.B-Y
DGT.Y
B-Y
R-Y
Y
H.BLK
ABL
+12V
+9V
9VUNR
+15.5V
+35V
GND
SYNC
4fSSW

C


2/2
1/2

D


5
6
7
8
A
B
C
D
Q1099
Q1098
Q1005
IC1003
Q1034
Q1031
Q1024
Q1027
Q1043
Q1097
Q1006
Q1020
Q1085
Q1069
Q1088
Q1004
Q1021
Q1018
Q1016
Q1033
Q1030
Q1023
Q1026
Q1042
Q1019
IC1009
IC1008
Q1070
Q1032
Q1029
Q1022
Q1025
Q1028
Q1035
Q1041
Q1045
(ANP1839–C)
R. DRIVEADJ
B. DRIVEADJ
VR1003
VR1002
VR1001
PALADJ
TA8759BN
X1003
ANH1165
IC1003
CN1007
CN3305
CN1003
IC1008
IC1009
+13.5V
+13.5V
GND
GND
+39V
9V. UNR
ABL
H. BLK
H. DRV
CPU RESET
RELAY
+35V
P. GND
ACCLK
P. GND
12VSTB
P. D
SCL
ON MUTE
TXT RST
DATA
SDA
+5V
H. SYNC
V. SYNC
SECAMREF.
BELL FILTER
ATG1033
ATG1026
ATG1027
B-YDET
DGT. Y
DGT. B-Y
DGT. R-Y
GND
TP1006
TP1007
JP
+12V
OUT
ANP1839-C
1666-B
1542-C
1566-C
AWV
U7
U8

4. ADJUSTMENT

Note: Only the differences in the adjustment between WYZI7/2 type and SL type are shown.

4.1 WHEN TUNER ASSY WAS REPAIRED

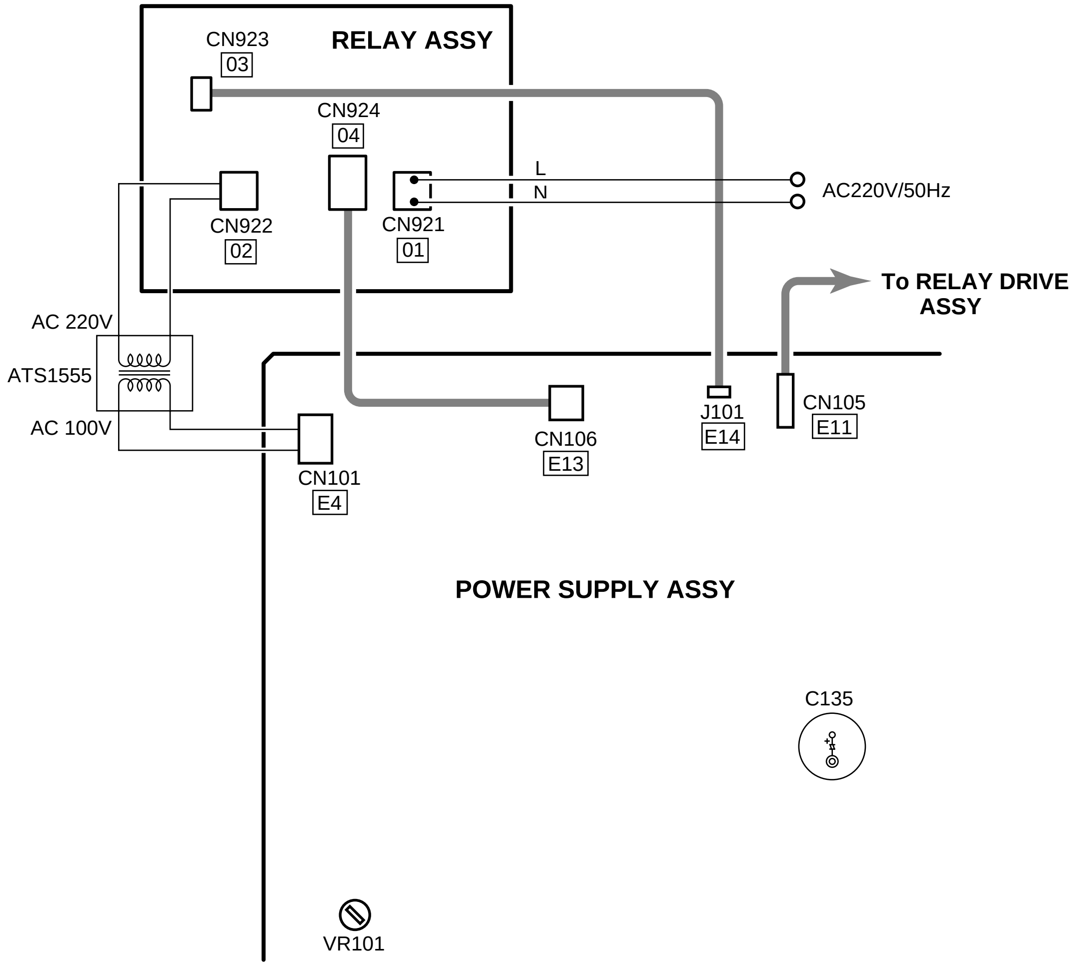
● For System B/G

Step No.	Adjustment Item	Input Signal	Adjustment Point	Adjustment Procedure
4	Adjacent audio trap adjustment for system B	③ B	F1508 (T)	Adjust so that the 40.4 MHz carrier level of TP1501 (SAW IN) becomes minimum.

4.2 WHEN POWER SUPPLY ASSY WAS REPAIRED

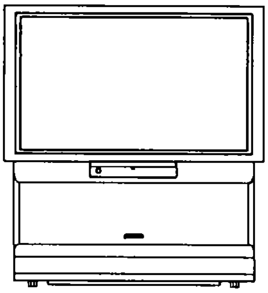
● 135V Power Supply Adjustment

Step No.	Adjustment Item	Input Signal	Adjustment Point	Adjustment Procedure
1	135V power supply adjustment	Monoscope signal	VR101	Adjust so that the voltage of both sides of C135 becomes 135 V ±0.5 V.


CN923
03
RELAY ASSY
CN924
04
L
N
AC220V/50Hz
CN922
02
CN921
01
To RELAY DRIVE ASSY
AC 220V
ATS1555
AC 100V
J101
E14
CN105
E11
CN106
E13
CN101
E4
POWER SUPPLY ASSY
C135
VR101

PIONEER
The Art of Entertainment

Service Manual



ORDER NO.
ARP2932

PROJECTION COLOUR TELEVISION

SD-T50W1

SD-T43W1

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model		Power Requirement	Remarks
	SD-T50W1	SD-T43W1		
SL	○	○	AC110V/120-127V/220-230V/240V	

CONTENTS

1. SAFETY PRECAUTIONS ··············· 2
2. PRODUCT SAFETY NOTICE ··············· 3
3. CHARGED SECTION, HIGH VOLTAGE GENERATING POINT AND X – RAY PROTECTION ···· 4
4. EXPLODED VIEWS, PACKING AND PARTS LIST ··············· 5
5. SCHEMATIC AND PCB CONNECTION DIAGRAMS ··············· 18
6. PCB PARTS LIST ··············· 90
7. ADJUSTMENTS ··············· 103
8. REPLACING THE CRT ASSY ··············· 148
9. WIRING DIAGRAM ··············· 150
10. PANEL FACILITIES ··············· 151
11. SPECIFICATIONS ··············· 152

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE, INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER ELECTRONIC (EUROPE) N.V. Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 501 Orchard Road, #10-00 Lane Crawford Place, Singapore 0923

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O-ISC JUNE 1996 Printed in Japan

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).
When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols -▭- (fast operating fuse) and/or -▭- (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible -▭- (fusible de type rapide) et/ou -▭- (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

1. SAFETY PRECAUTIONS

NOTICE:Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis or picture tube.
The following precautions should be observed:

1. Do not install, remove, or handle the picture tube in any manner unless shatterproof goggles are worn. People not so equipped should be kept away while picture tubes are handled.
   Keep picture tube away from the body while handling.
2. When service is required, even though the PROJECTION MONITOR RECEIVER an isolation transformer should be inserted between power line and the set in safety before any service is performed.
3. When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
4. When service is required, observe the original lead dress.
   Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
5. Always use the manufacturer's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's.
   Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
6. Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacturer has become defective, or inadvertently defeated during servicing.

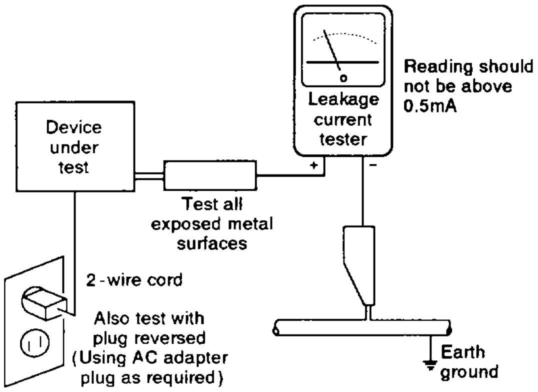
Therefore, the following checks should be performed for the continued protection of the customer and service technician.

Leakage Current Cold Check

With the AC plug removed from the 110/120 - 127/220 - 230/240V AC 50/60Hz source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester(DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part(input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of 0.3MΩ and a maximum resistor reading of 5MΩ . Any resistor value below or above this range indicates an abnormality which requires corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

Leakage Current Hot Check

Plug the AC line cord directly into a 110/120 - 127/220 - 230/240V AC 50/60Hz outlet (do not use an isolation transformer for this check). Turn the AC power switch on. Using a "Leakage Current Tester(Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet(input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground(water pipe, conduit, etc.). Any current measured must not exceed 0.5mA.


Leakage current tester
Reading should not be above 0.5mA
Device under test
Test all exposed metal surfaces
2-wire cord
Also test with plug reversed (Using AC adapter plug as required)
Earth ground
+
-

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE SET TO THE CUSTOMER.

High Voltage

This set is provided with a X-ray protection for clearly indicating that voltage has increased in excess of a predetermined value. Comply with all notes described in this Service Manual regarding this hold down circuit when servicing, so that this X-ray protection may correctly be operated.

Serviceman Warning

In the status of the black picture(video muting is being applied)when no signal is input, high voltage of this set during operation is less than 30.9kV. In case any component having some relation to the high voltage is replaced, confirm that the high voltage is lower than 30.9kV in the status of the black picture when no signal is input.

To measure H.V. use a high impedance H.V. meter.

Connect (-) to earth and (+) to the FBT anode cable connector. (Refer to page 145.)

X-radiation

TUBE: The primary source of X-radiation in this set is the picture tube.

For continued X-radiation protection, the replacement tube must be the same type as the original, PIONEER approved type.

The picture tube(CRT assy R, G, B)used in this set holds complete guarantee against X-ray radiation when the X-ray is sealed (See page 4). Accordingly, when the current in flowing to the picture tube(CRT assy R, G, B), be sure to perform it by putting the tube into X-ray sealed applied state. Avoid absolutely to flow the current to the picture tube (CRT assy R, G, B) itself. Moreover, when the voltage of the high voltage circuit becomes abnormally a little higher, the picture tube radiates X-rays. Accordingly, when servicing the high voltage circuit be sure to replace as an assy with the POWER SUPPLY assy in the manner in which has been adjusted to perform normal operation.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in PIONEER set have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, X-radiation, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

3. CHARGED SECTION, HIGH VOLTAGE GENERATING POINT AND X-RAY PROTECTION

■ Charged section

The circuit in which the commercial AC power is used as it is without passing through the power supply transformer. If the charged section is touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. In this case, be sure to connect the set via an insulated transformer and supply the current.

■ Charged section
(Power supply primary side)

1. The primary side of the POWER SUPPLY assy
2. AC power cord
3. MAIN POWER switch (S2)
4. AC inlet
5. AC IN assy
6. Voltage selector (S1)
7. Power transformer (T1)

■ part is the charged section.

▨ part is the high voltage generating points other than the charged section.

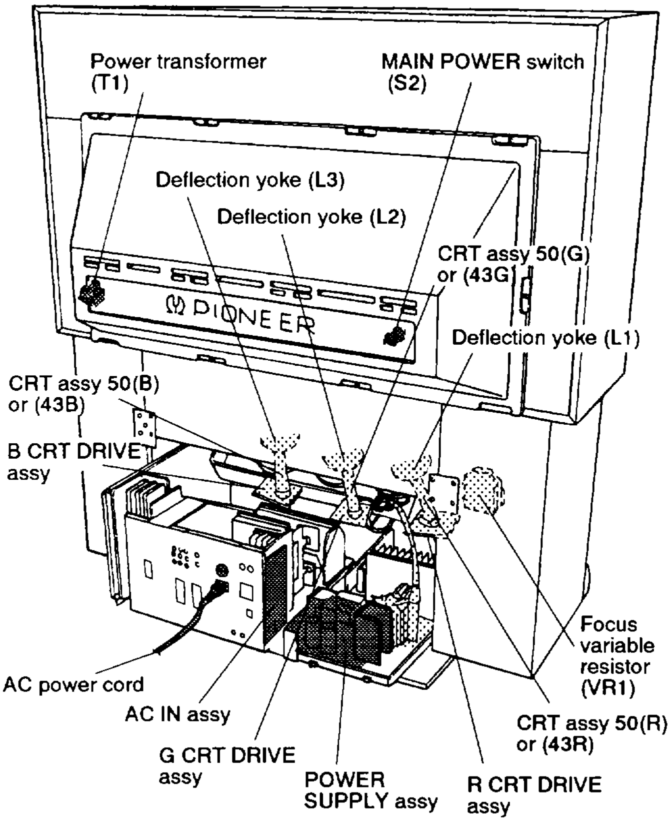

Power transformer (T1)
MAIN POWER switch (S2)
Deflection yoke (L3)
Deflection yoke (L2)
CRT assy 50(G) or (43G)
PIONEER
Deflection yoke (L1)
CRT assy 50(B) or (43B)
B CRT DRIVE assy
Focus variable resistor (VR1)
AC power cord
AC IN assy
CRT assy 50(R) or (43R)
G CRT DRIVE assy
POWER SUPPLY assy
R CRT DRIVE assy

Fig. 1 Charged section and high voltage generating section

■ High voltage generating point

The place where voltage of over 100V is generated.

1. Charged section	
2. POWER SUPPLY assy (including FBT)	(30.5kV, 135V)
3. R. CRT DRIVE assy	(10.5kV)
4. G. CRT DRIVE assy	(10.5kV)
5. B. CRT DRIVE assy	(10.5kV)
6. CRT assy R	(30.5kV)
7. CRT assy G	(30.5kV)
8. CRT assy B	(30.5kV)
9. Focus variable resistor (VR1)	(10.5kV)
10. Deflection yokes (L1, L2, and L3)	(Approx. 1100V at peak)

■ X-ray protection

- Regarding the parts which are relative to radiation of X-rays (There is the danger to radiate X-ray from the individual CRT assy R, G, B), there are notifications of caution in the individual schematic diagrams. Be sure to read them for safety's sake.
- The component parts for X-ray protection are as follows :When the current flows to the CRT assy R, G, B, be sure to perform it with these parts being attached. Protection from the X-ray radiation is maintained in the state in which these parts have been installed to the CRT assy R, G, B. Accordingly, never supply current only to the CRT assy R, G, B.

  Moreover, the anode voltage of the CRT assy R, G, B should always be kept not higher than the predetermined value (in the minimum brightness and picture state when non signal input is higher than 30.9kV). Be sure to drive the CRT assy R, G, B by using a completely functional POWER SUPPLY assy which have been adjusted completely in the combined state. (When the voltage abnormally becomes high, the X-ray protection circuit will operate.)

1. CRT assy R, G, B (Do not dismantle CRT assemblies under any circumstances).
2. Each Lens assy

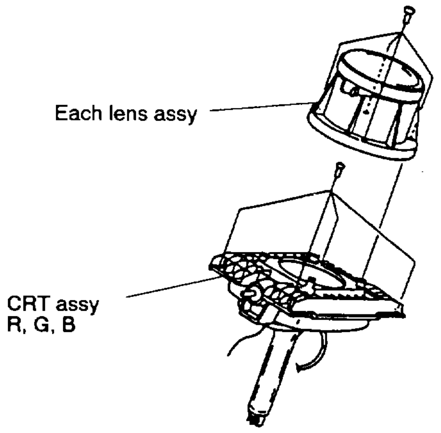

Each lens assy
CRT assy R, G, B

Fig. 2 Component parts for X-ray protection

4. EXPLODED VIEWS, PACKING AND PARTS LIST

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *Parts marked by ☆ are important parts which relate to X-rays radiation.*
  If any of these parts need to be replaced, always replace with specified parts.

4.1 PARTS LIST

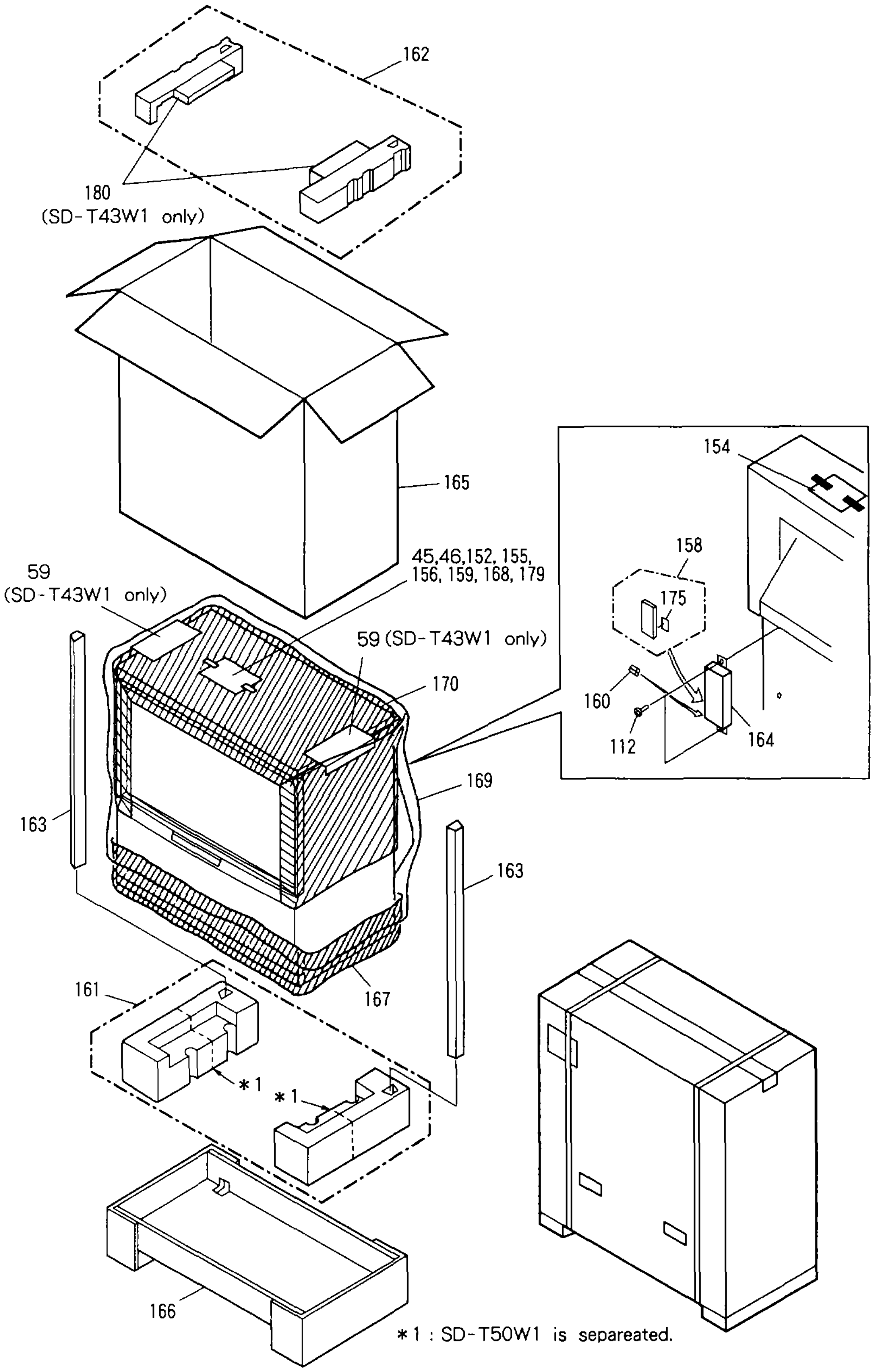
Mark	No.	Description	Part No.
	1	CONVERGENCE ASSY	AWV1520
	2	VIDEO•UCOM ASSY	AWV1542
	3	TUNER ASSY	AWZ6075
	4	R CONV DAC ASSY (SD-T50W1)	AWZ6076
	4	R CONV DAC ASSY (SD-T43W1)	AWZ6152
	5	G CONV DAC ASSY (SD-T50W1)	AWZ6077
	5	G CONV DAC ASSY (SD-T43W1)	AWZ6153
	6	B CONV DAC ASSY (SD-T50W1)	AWZ6078
	6	B CONV DAC ASSY (SD-T43W1)	AWZ6154
	7	A CONNECTOR ASSY	AWZ6079
	8	B CONNECTOR ASSY	AWZ6080
	9	C CONNECTOR ASSY	AWZ6081
	10	AV I/O ASSY	AWZ6082
	11	FRONT CONTROL ASSY	AWZ6083
	12	AV2 ASSY	AWZ6084
NSP	13	S TERMINAL ASSY	AWZ6085
	14	AUDIO ASSY	AWZ6086
	15	R CRT DRIVE ASSY	AWZ6087
	16	G CRT DRIVE ASSY	AWZ6088
	17	B CRT DRIVE ASSY	AWZ6089
	18	AC IN ASSY	AWZ6090
	19	Y/C ASSY	AWZ6091
	20	D CONNECTOR ASSY	AWZ6092
	21	POWER DOWN ASSY	AWZ6093
	22	RELAY DRIVE ASSY	AWZ6094
☆	23	POWER SUPPLY ASSY	AWV1546
	24	DIGITAL ASSY	AWV1548
	25	DOOR	AAN1416
	26	CONTROL PANEL	AMB2524
	27	• • • • •	
⚠	28	VR1 FOCUS VR	ACX1082
⚠	29	C1,C2 CKA (4700P/AC250V)	ACG7009
⚠	30	L1 DEFLECTION YOKE	ATL1112
⚠	31	L2 DEFLECTION YOKE	ATL1112
⚠	32	L3 DEFLECTION YOKE	ATL1112
⚠	33	T1 POWER TRANSFORMER	ATS1555
⚠	34	S1 VOLTAGE SELECTOR	AKX7001
⚠	35	S2 POWER SWITCH	ASG1082
⚠	36	1P AC INLET	AKP1021
NSP	37	PAL SOCKET	AKX-202
⚠	38	FU106 FUSE(T800mA, 250V)	AEK-507
⚠	39	FU102 FUSE(T4A, 250V)	AEK-514
⚠	40	FU105 FUSE(T4A, 250V)	AEK-514
⚠	41	FU107 FUSE(T6.3A, 250V)	AEK-516
⚠	42	FU901 FUSE(T6.3A, 250V)	AEK1039
	43	SPEAKER 66 (SD-T50W1 ONLY)	D66AP45-56L
	44	SPEAKER 12 (SD-T50W1)	SWM1030
	44	SPEAKER 12 (SD-T43W1)	B13DC65-51DW
⚠	45	AC POWER CORD	ADG1107
⚠	46	AC POWER CORD	ADG1109
	47	J2 1P LEAD WIRE	ADX1307
	48	J3 1P LEAD WIRE	ADX1308
	49	J4 1P LEAD WIRE	ADX1309
⚠	50	J5 1P LEAD WIRE	ADX1310
	51	J8 4P HOUSING WIRE	ADX1315
⚠	52	J7 1P LEAD WIRE	ADX2173
⚠	53	J6 1P LEAD WIRE	ADX2174
	54	J9 8P LEAD WIHT HOUSING (SD-T50W1)	ADX2221
	54	J9 8P LEAD WIHT HOUSING (SD-T43W1)	ADX2222
	55	J18 WIRE HARNESS A	ADX2242
	56	J19 WIRE HARNESS B	ADX2243
	57	J10 3P LEAD WIHT HOUSING	ADX2244
	58	J11 WIRE HARNESS C	ADX2245
	59	PAPER SHEET (50) (SD-T43W1 ONLY)	AHB1151
☆	60	LENS ASSY (40) (SD-T43W1 ONLY)	AMR2604
	61	VIDEO BOARD ASSY (SD-T43W1 ONLY)	AMR2873
NSP	62	FRONT COVER PANEL (SD-T43W1 ONLY)	ANG1953
	63	SCREW (SD-T43W1 ONLY)	BYC40P180FMC
	64	SCREW (SD-T43W1 ONLY)	VPZ30P080FMC
⚠	65	J1 ANODE CABLE	ADY1012
NSP	66	CONVER CHASSIS	ANA1493
NSP	67	CRT FRONT FRAME (50) (SD-T50W1)	ANA1511
NSP	67	CRT FRONT FRAME (SD-T43W1)	ANA1494
NSP	68	CRT REAR FRAME (50) (SD-T50W1)	ANA1512
NSP	68	CRT REAR FRAME (SD-T43W1)	ANA1495
NSP	69	CHASSIS ASSY	ANA1526
	70	REAR PANEL (SD-T50W1)	ANC2276
	70	REAR PANEL (SD-T43W1)	ANC2277
NSP	71	BACK COVER PLATE	ANE1529
	72	CASTER	AMR2729

Mark	No.	Description	Part No.
NSP	73	PCB FRAME	ANG1849
NSP	74	SWITCH HOLDER	ANG1945
NSP	75	MIRROR UPPER STAY L	ANG1946
NSP	76	MIRROR UPPER STAY C	ANG1947
NSP	77	MIRROR UPPER STAY R	ANG1948
NSP	78	MIRROR UNDER STAY	ANG1949
NSP	79	VR HOLDER	ANG1956
NSP	80	SCREEN HOLDER H (50) (SD-T50W1)	ANG2029
NSP	80	SCREEN HOLDER H (43) (SD-T43W1)	ANG2025
NSP	81	SCREEN HOLDER V (50) (SD-T50W1)	ANG2030
NSP	81	SCREEN HOLDER V (43) (SD-T43W1)	ANG2026
NSP	82	SCREEN HOLDER UH (50) (SD-T50W1)	ANG2031
NSP	82	SCREEN HOLDER UH (43) (SD-T43W1)	ANG2027
NSP	83	AC IN ASSY HOLDER	ANG2060
NSP	84	CORD PLATE	ANG2061
NSP	85	PCB HOLDER (S)	ANG2062
NSP	86	BOTTOM RAIL HOLDER (SD-T50W1 ONLY)	ANG2082
	87	SHIELD COVER	ANH1166
	88	NYLON BINDER	AEC-093
	89	RIVET	AEC-441
	90	BINDER	AEC-826
	91	CATCHER	AEC1012
NSP	92	PURSE LOCK S	AEC1261
NSP	93	NYLON CLAMPER	AEC1321
NSP	94	CABLE CLIP	AEC1369
NSP	95	PURSE LOCK L	AEC1422
	96	PURSE LOCK	AEC1540
	97	SPACER (PVC)	AEC1594
	98	RIVET (PLASTIC)	AEC1608
	99	SCREEN SPACER 50(PVC) (SD-T50W1)	AEC1641
	99	SCREEN SPACER(PVC) (SD-T43W1)	AEC1639
	100	CUSHION A	AEC1643
	101	CUSHION B	AEC1644
	102	SPACER(PVC)(SD-T50W1 ONLY)	AEC1652
	103	SPACER (PVC)	AEC1654
	104	BINDER	AEP-215
	105	RIVET (PLASTIC)	AEP-236
NSP	106	LEAD CLAMPER	AEP-329
	107	FRESNEL(50W) (SD-T50W1)	AMR2788
	107	FRESNEL(43W) (SD-T43W1)	AMR2778
	108	LENTICULAR SHEET(50W) (SD-T50W1)	AMR2858
	108	LENTICULAR SHEET(43W) (SD-T43W1)	AMR2685
☆	109	LENS ASSY (G) (SD-T50W1 ONLY)	AMR2388
☆	110	LENS ASSY (B) (SD-T50W1 ONLY)	AMR2389

Mark	No.	Description	Part No.
	111	MIRROR (SD-T50W1)	AMR2859
	111	MIRROR (43) (SD-T43W1)	AMR2813
	112	SCREW (STEEL)	ABA1020
	113	SCREW (STEEL)	ABA1089
	114	SCREW	ABA1099
	115	SPECIAL SCREW	ABA1121
	116	• • • • •	
	117	SPECIAL SCREW(FE) (SD-T50W1 ONLY)	ABA1198
	118	SCREW	ABA1215
	119	SCREW	ABA1224
	120	SCREW (SD-T50W1)	BYC40P250FMC
	120	SCREW (SD-T43W1)	BYC40P120FZK
	121	HEXAGONAL DUCT NUT	ABN-087
	122	SCREW	ABZ30P080FZK
	123	SCREW	ABZ40P120FMC
	124	SCREW	ACZ40P080FMC
	125	SCREW	AMZ40P080FZK
	126	SCREW	BBZ30P080FCU
	127	SCREW	BBZ30P080FZK
	128	SCREW	BBZ30P100FMC
	129	SCREW (SD-T50W1 ONLY)	BYC35P120FZK
	130	SCREW (SD-T50W1 ONLY)	BYC35P160FZK
	131	SCREW	BYC40P120FZK
	132	SCREW	BYC40P140FZK
	133	SCREW	BYC40P160FMC
	134	SCREW	FBT40P120FZK
	135	SCREW	PMB30P080FZK
	136	SCREW	PMB50P250FZB
	137	SCREW	PPZ40P120FMC
	138	SCREW	PYC40T140FZB
	139	SCREW	VBT30P080FZK
	140	SCREW	VCZ30P060FMC
	141	SCREW	VPZ40P120FMC
NSP	142	TRAY (PLS)	AMR2563
	143	CONTROL SHEET	AAK2668
	144	INDICATOR PANEL(SD-T50W1)	AAK2669
	144	INDICATOR PANEL(SD-T43W1)	AAK2670
	145	BADGE (SD-T50W1 ONLY)	AAM1068
	146	SCREEN FRAME(50) (SD-T50W1)	AMB2592
	146	SCREEN FRAME(43) (SD-T43W1)	AMB2571
	147	BOTOM RAIL 51 (SD-T50W1)	AMR2861
	147	BOTOM RAIL (43)(SD-T43W1)	AMR2860
	148	• • • • •	
	149	MIRROR CASE	AME2292
	150	GRILLE 51 (SD-T50W1)	AMR2711
	150	GRILLE ASSY(43)(SD-T43W1)	AMR2688
NSP	151	BLIND PLATE(SD-T50W1 ONLY)	AMR2794
	152	OPERATING INSTRUCTIONS (ENGLISH)	ARB1500
	153	• • • • •	
NSP	154	CONVER CAUTION	ARM1113
NSP	155	CAUTION LABEL 220V	ARR1002
NSP	156	WARRANTY CARD	ARW1020
	157	• • • • •	

Mark	No.	Description	Part No.
	158	REMOTE CONTROL UNIT (CU-SD097)	AXD1424
	159	CASTER PLATE	AEC1025
NSP	160	BATTERY(R03, AAA)	AEX-021
	161	UNDER PAD ASSY (SD-T50W1)	AHA2093
	161	UNDER PAD ASSY (SD-T43W1)	AHA2034
	162	UPPER PAD ASSY (SD-T50W1)	AHA2094
	162	UPPER PAD ASSY (SD-T43W1)	AHA2035
	163	CYLINDRICAL SUPPORT (SD-T50W1)	AHB1168
	163	CYLINDRICAL SUPPORT (SD-T43W1)	AHB1142
NSP	164	CU PACKING CASE	AHC1027
	165	UPPER CARTON (SD-T50W1)	AHD2846
	165	UPPER CARTON (SD-T43W1)	AHD2847
	166	UNDER CARTON (SD-T50W1)	AHD2866
	166	UNDER CARTON (SD-T43W1)	AHD2811
NSP	167	PACKING SHEET	AHG1036
NSP	168	MANUAL BAG	AHG1083
NSP	169	VINYL SEAT L	AHG1110
NSP	170	PACKING SHEET	AHG1232
	171	• • • • •	
⚠☆	172	CRT ASSY 50(B) (SD-T50W1)	AWY1349
⚠☆	172	CRT ASSY (43B) (SD-T43W1)	AWY1303
⚠☆	173	CRT ASSY 50(G) (SD-T50W1)	AWY1369
⚠☆	173	CRT ASSY (43G) (SD-T43W1)	AWY1304
⚠☆	174	CRT ASSY 50(R) (SD-T50W1)	AWY1370
⚠☆	174	CRT ASSY (43R) (SD-T43W1)	AWY1305
	175	BATTERY COVER	AZN2237
	176	SCREW (SD-T43W1 ONLY)	ABZ40P120FZK
	177	BLIND SPACER(PVC) (SD-T43W1 ONLY)	AEC1605
	178	CUSHION C (SD-T43W1 ONLY)	AEC1645
	179	BIND (SD-43W1 ONLY)	AED1161
NSP	180	PAD (SD-T43W1 ONLY)	AHA2073

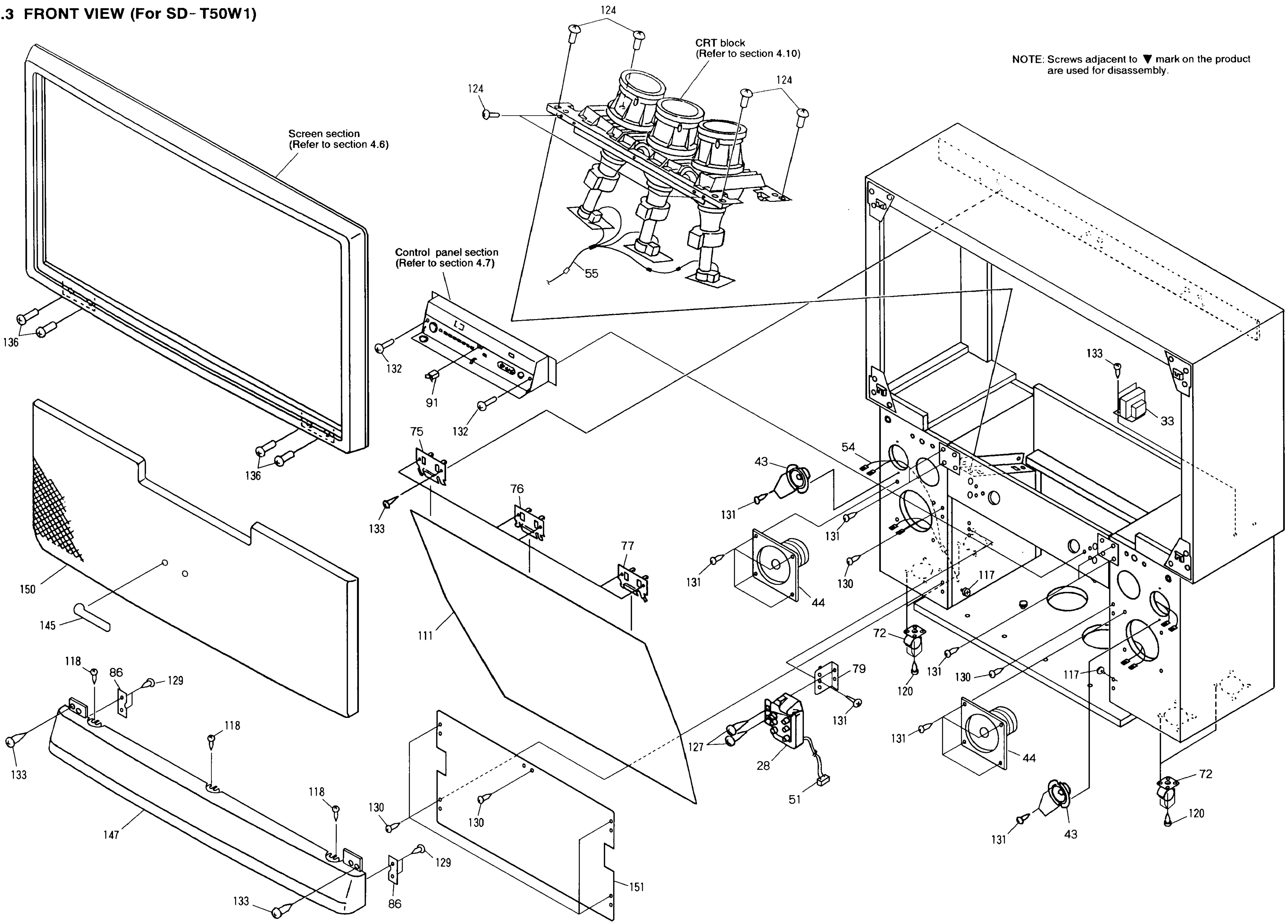
4.2 PACKING


162
180
(SD-T43W1 only)
165
59
(SD-T43W1 only)
45,46,152, 155,
156, 159, 168, 179
59 (SD-T43W1 only)
170
169
163
163
167
161
*1
*1
166
154
158
175
160
112
164

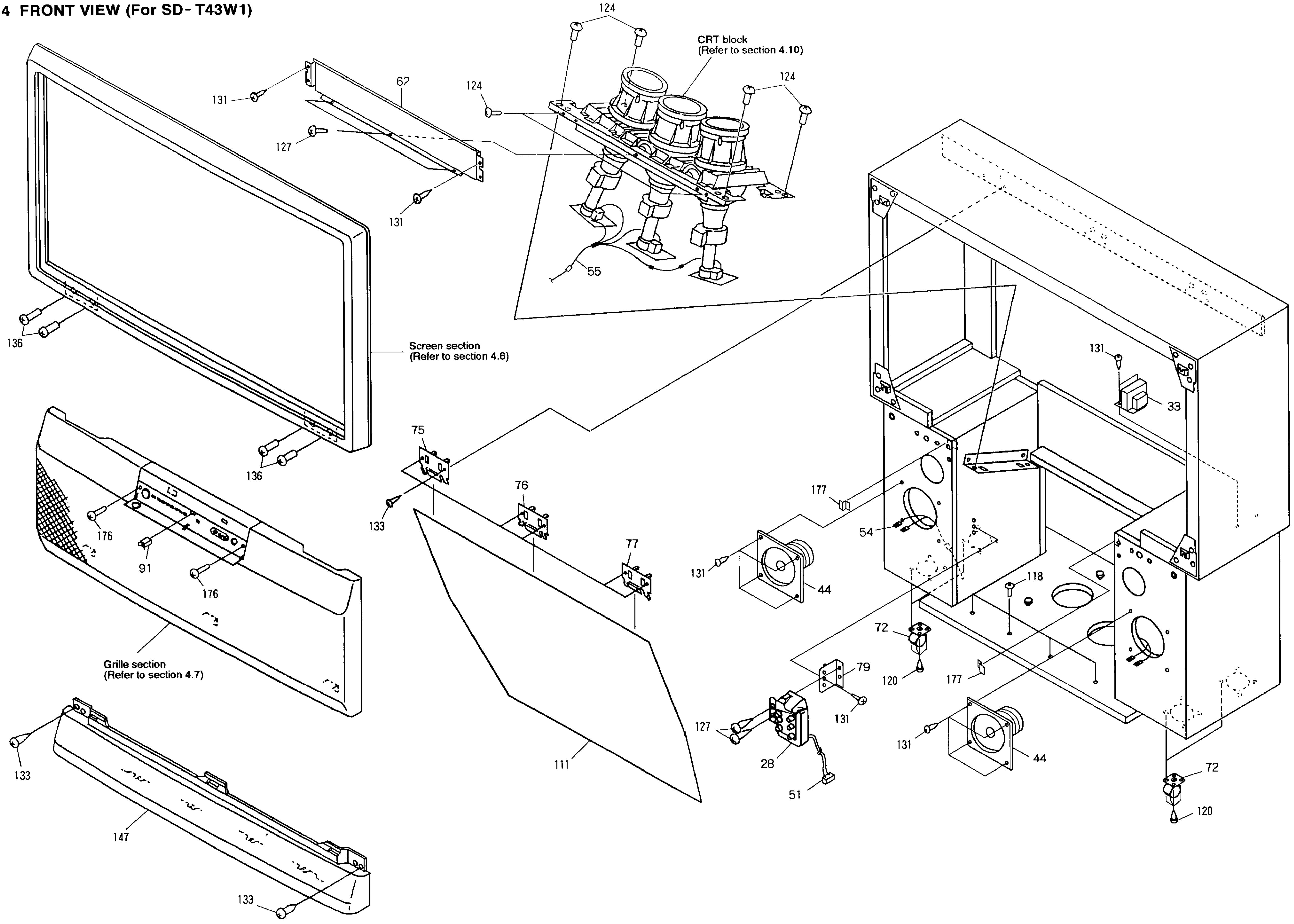
*1 : SD-T50W1 is separeated.

4.3 FRONT VIEW (For SD- T50W1)

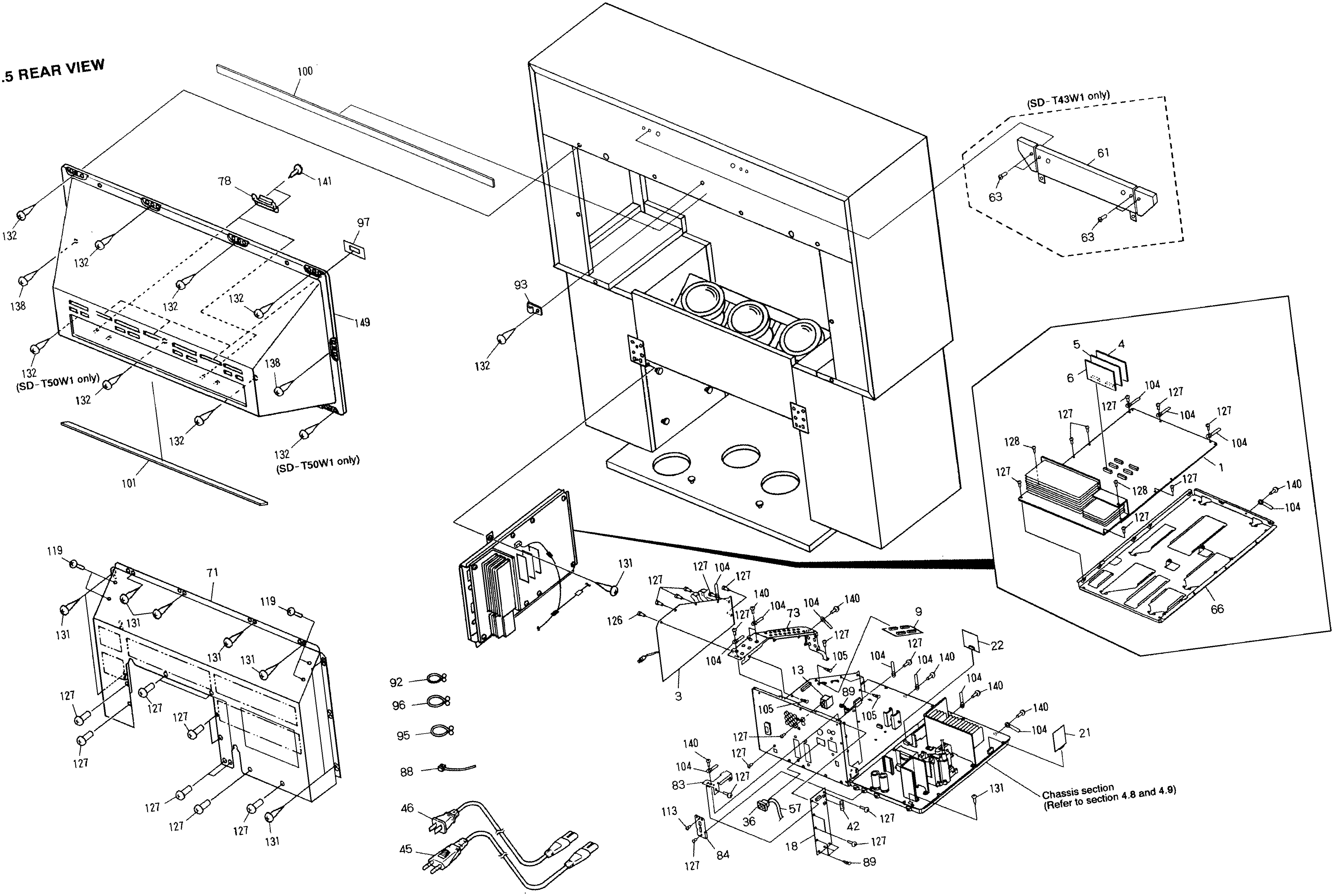
NOTE: Screws adjacent to ▼ mark on the product are used for disassembly.


124
CRT block
(Refer to section 4.10)
124
124
Screen section
(Refer to section 4.6)
Control panel section
(Refer to section 4.7)
55
136
132
91
132
136
133
33
75
54
43
131
131
76
133
77
131
130
117
44
150
145
111
72
118
86
129
79
131
130
117
120
118
133
131
127
28
44
51
72
118
130
130
120
147
129
131
43
133
86
151

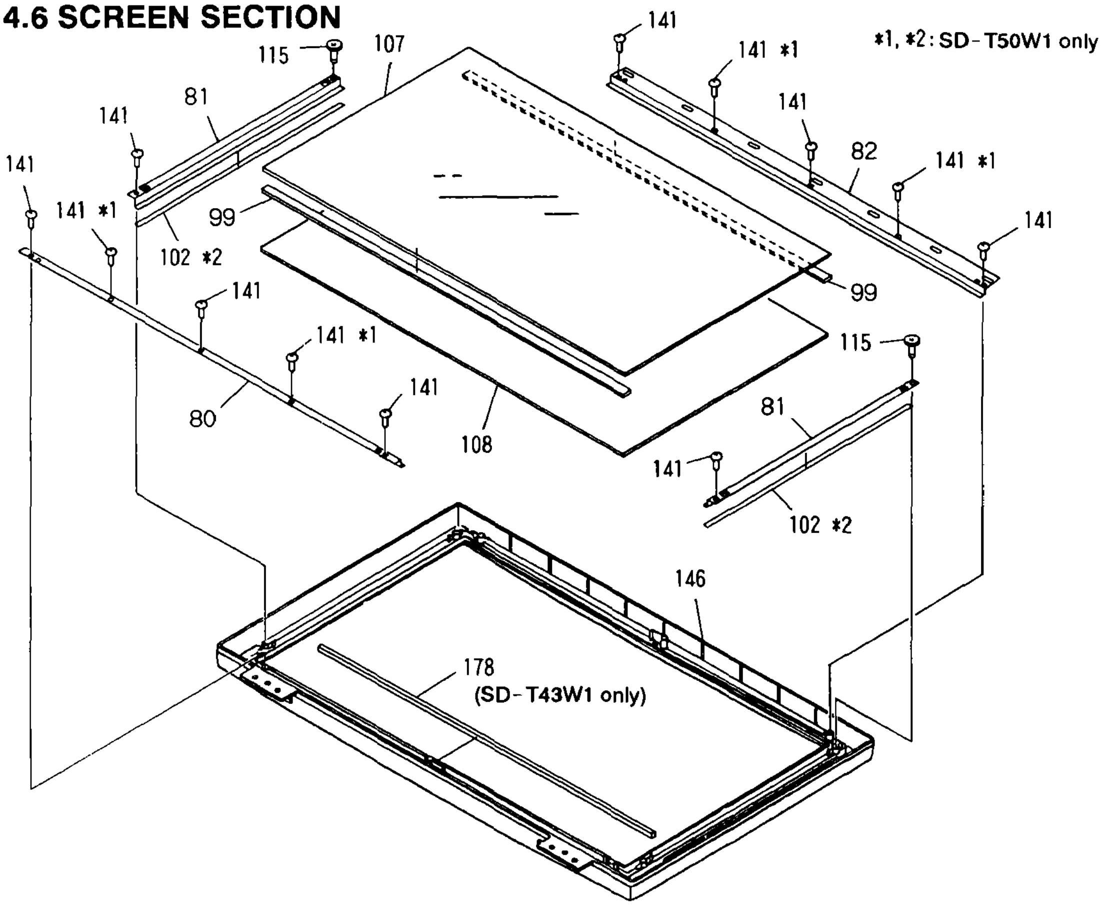
4.4 FRONT VIEW (For SD-T43W1)


124
CRT block
(Refer to section 4.10)
62
131
124
124
127
131
55
136
Screen section
(Refer to section 4.6)
131
33
75
136
76
177
176
133
54
77
91
131
44
176
118
72
79
Grille section
(Refer to section 4.7)
120
177
127
131
131
44
28
72
133
111
51
120
147
133

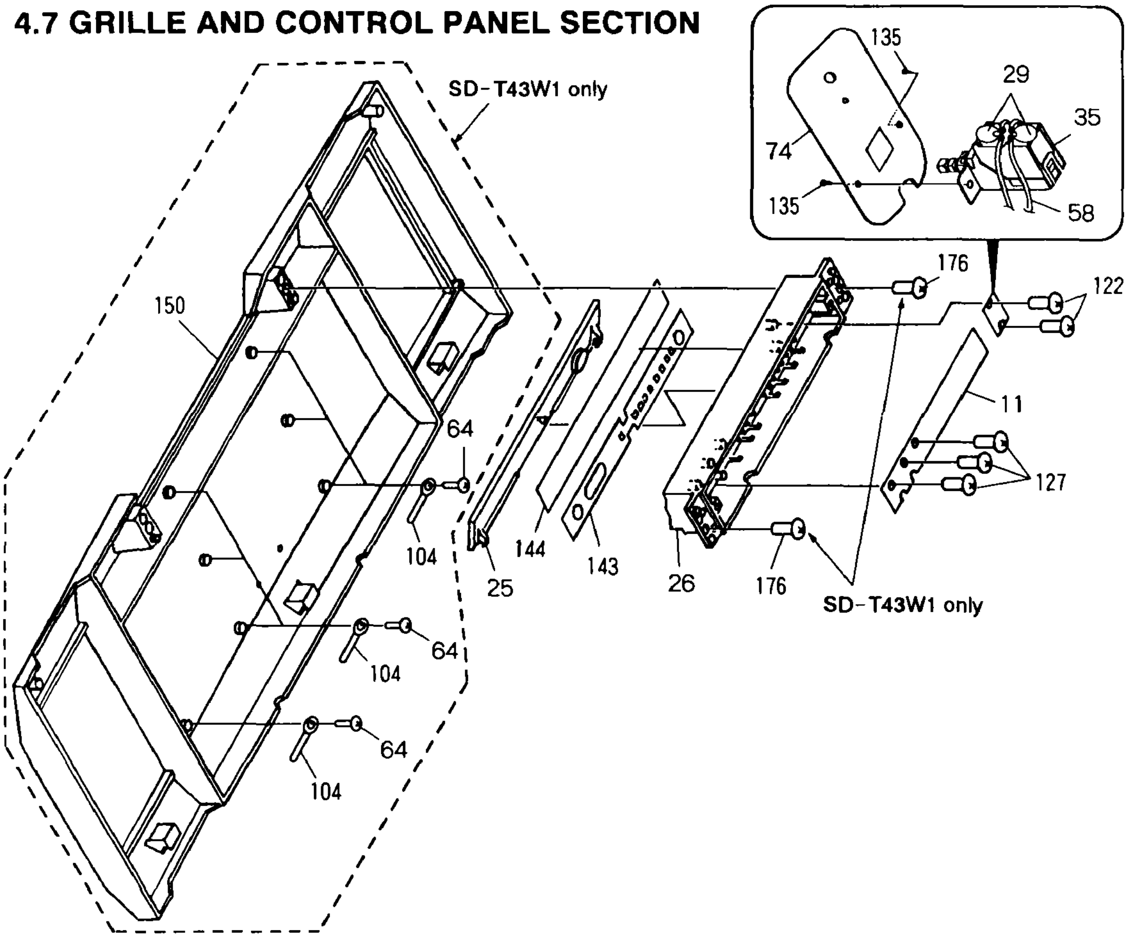
4.5 REAR VIEW


(SD-T50W1 only)
(SD-T50W1 only)
(SD-T43W1 only)
Chassis section
(Refer to section 4.8 and 4.9)

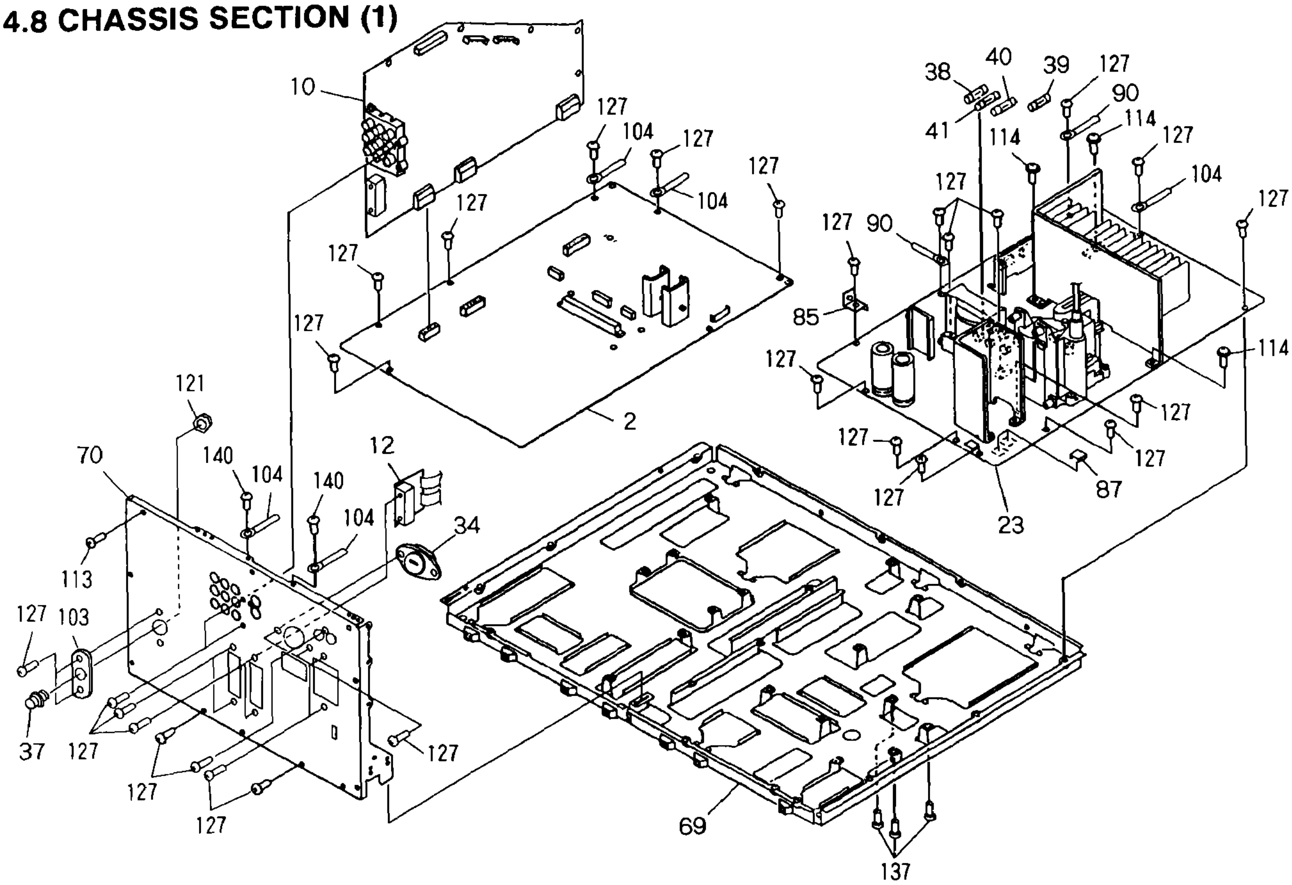
4.6 SCREEN SECTION


*1, *2: SD-T50W1 only
141
141 *1
141
82
141 *1
141
115
107
81
141
141
141 *1
99
102 *2
99
141
141 *1
141
80
108
115
81
141
102 *2
146
178
(SD-T43W1 only)

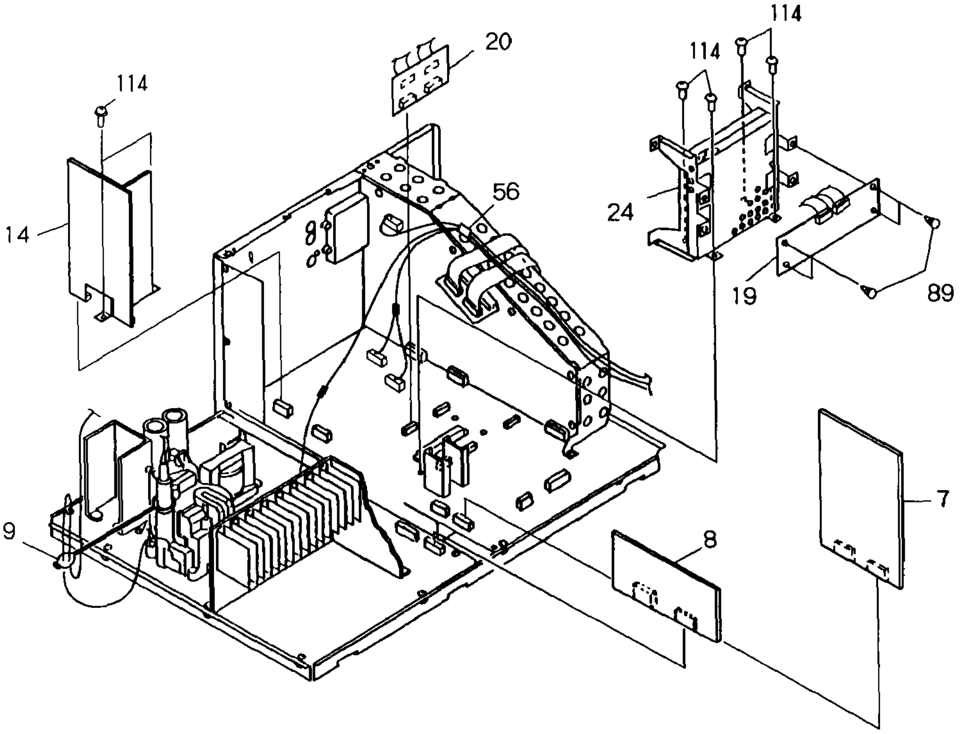
4.7 GRILLE AND CONTROL PANEL SECTION


SD-T43W1 only
150
135
29
35
74
135
58
176
122
11
127
64
104
64
104
64
104
25
144
143
26
176
SD-T43W1 only

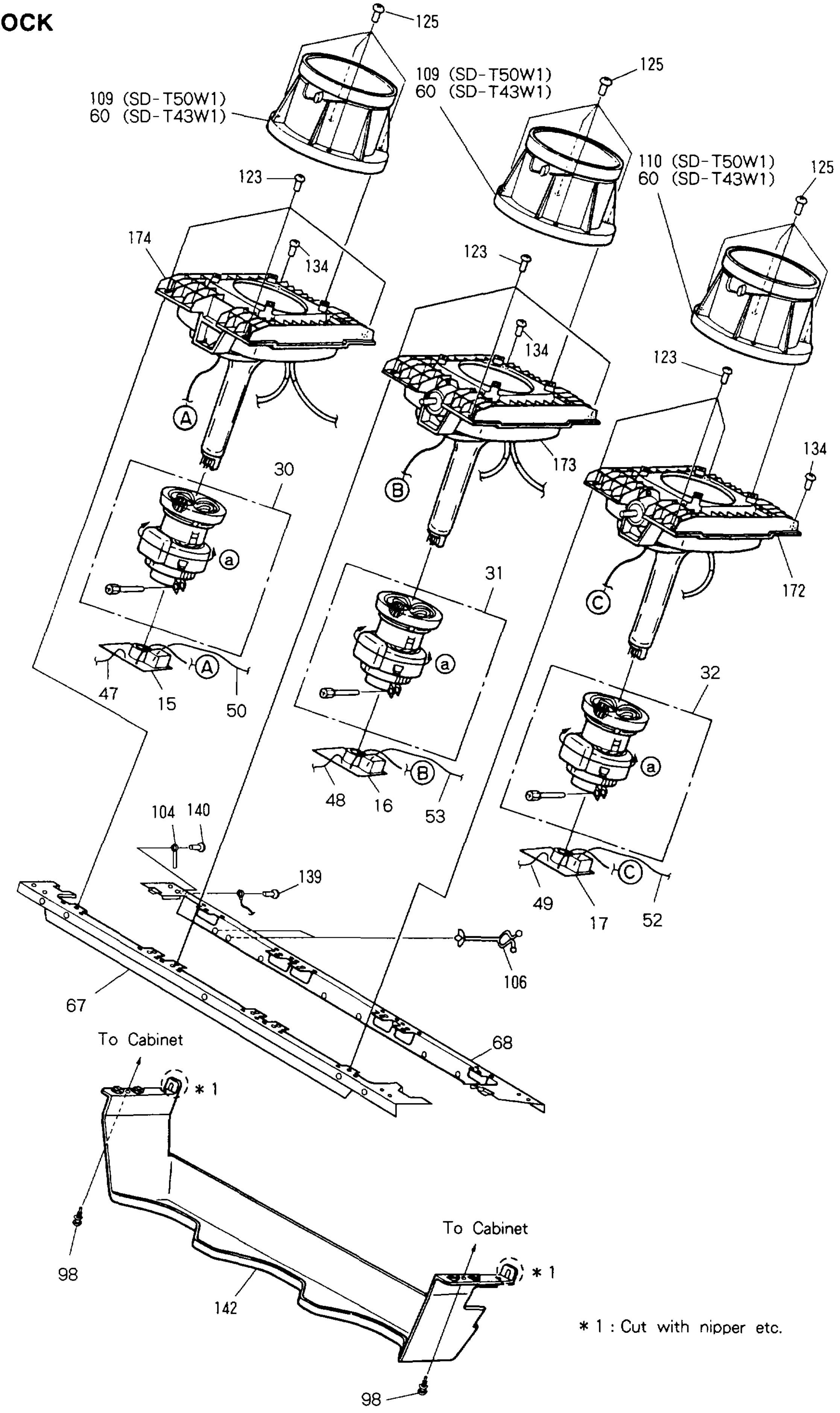
4.8 CHASSIS SECTION (1)


10
127
104
127
127
104
127
127
127
127
2
38
40
39
127
41
90
114
127
114
127
104
127
127
127
90
85
127
114
127
127
127
127
87
23
121
70
140
104
140
12
104
34
113
127
103
37
127
127
127
127
127
69
137

4.9 CHASSIS SECTION (2)


114
20
114
114
14
56
24
19
89
9
8
7

4.10 CRT BLOCK


125
109 (SD-T50W1)
60 (SD-T43W1)
109 (SD-T50W1)
60 (SD-T43W1)
125
110 (SD-T50W1)
60 (SD-T43W1)
125
123
174
134
123
134
123
134
A
30
173
B
172
a
C
31
47
15
A
50
a
32
48
16
B
53
a
104
140
139
49
17
C
52
106
67
68
To Cabinet
* 1
98
To Cabinet
* 1
142
98

＊ 1 : Cut with nipper etc.

5. SCHEMATIC AND PCB CONNECTION DIAGRAMS

NOTE FOR SCHEMATIC DIAGRAMS

(Type 5A)

1. When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".

2. Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.

3. RESISTORS:
Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
Tolerance:(F): ± 1%, (G): ± 2%, (K): ± 10%, (M): ± 20% or ± 5% unless otherwise noted.

4. CAPACITORS:
Unit : p:pF or μF unless otherwise noted.
Ratings : capacitor (μF) / voltage (V) unless otherwise noted.
Rated voltage : 50V except for electrolytic capacitors.

5. COILS:
Unit : m:mH or μH unless otherwise noted.

6. VOLTAGE AND CURRENT:
▭ or • V :
DC voltage (V) at no input signal unless otherwise noted.
Value in (   ) is DC voltage at color bar signal input state.
⇦ mA or ← mA :
DC current at no input signal unless otherwise noted.

7. OTHERS:
- ⊘ or ● : Adjusting point.
- ◀ : Measurement point.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by ☆ are important parts which relate to X-rays radiation. If any of these parts needs to be replaced, always replace with specified parts.
- Parts marked by × are important parts which relate to X-rays radiation. If a failure occurs in any of these parts, replace the printed circuit board assembly where the relevant part has already been adjusted as a working component. Do not replace the actual part itself. If any part marked by × is replaced, there is danger of being exposed to X-rays.

8. SCH – ☐ ON THE SCHEMATIC DIAGRAM:
- SCH– ☐ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)

9. SWITCHES (Underline indicates switch position) :

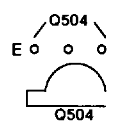
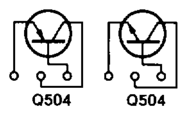
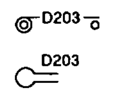
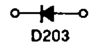
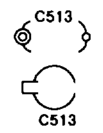
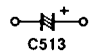
AUDIO ASSY
S3701 : SPEAKER SELECTOR INT—EXT

FRONT CONTROL ASSY
S3901 : FINE TUNE – (▽)
S3902 : VOL + (◁)
S3903 : RESET
S3904 : FACTORY ADJ
S3905 : PR – (▽)
S3906 : PR + (△)
S3907 : VOL – (◁)
S3908 : STANDBY/ON (⏻)
S3909 : INPUT (⇥)
S3911 : FINE TUNE + (△)

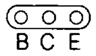
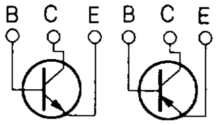
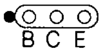
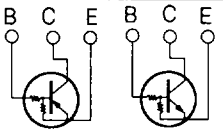
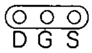
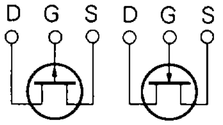
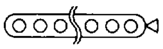
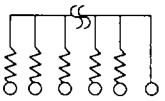
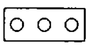
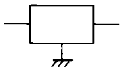
OUTSIDE OF PCB ASSY
S1 : VOLTAGE SELECTOR
AC110V—120–127V—220–230V—240V
S2 : MAIN POWER

NOTE FOR PCB DIAGRAMS:

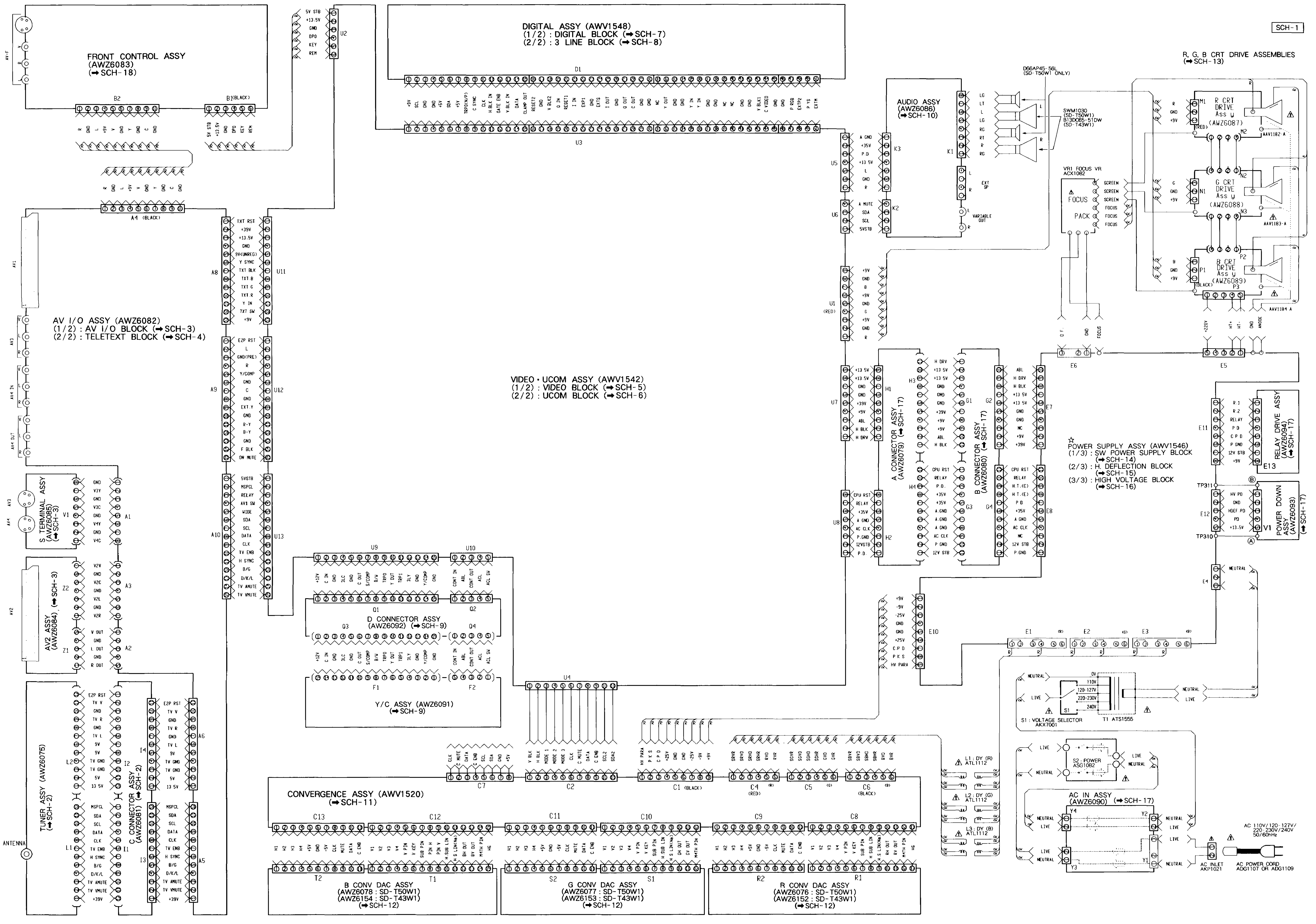
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Diode
		Capacitor (Polarized)

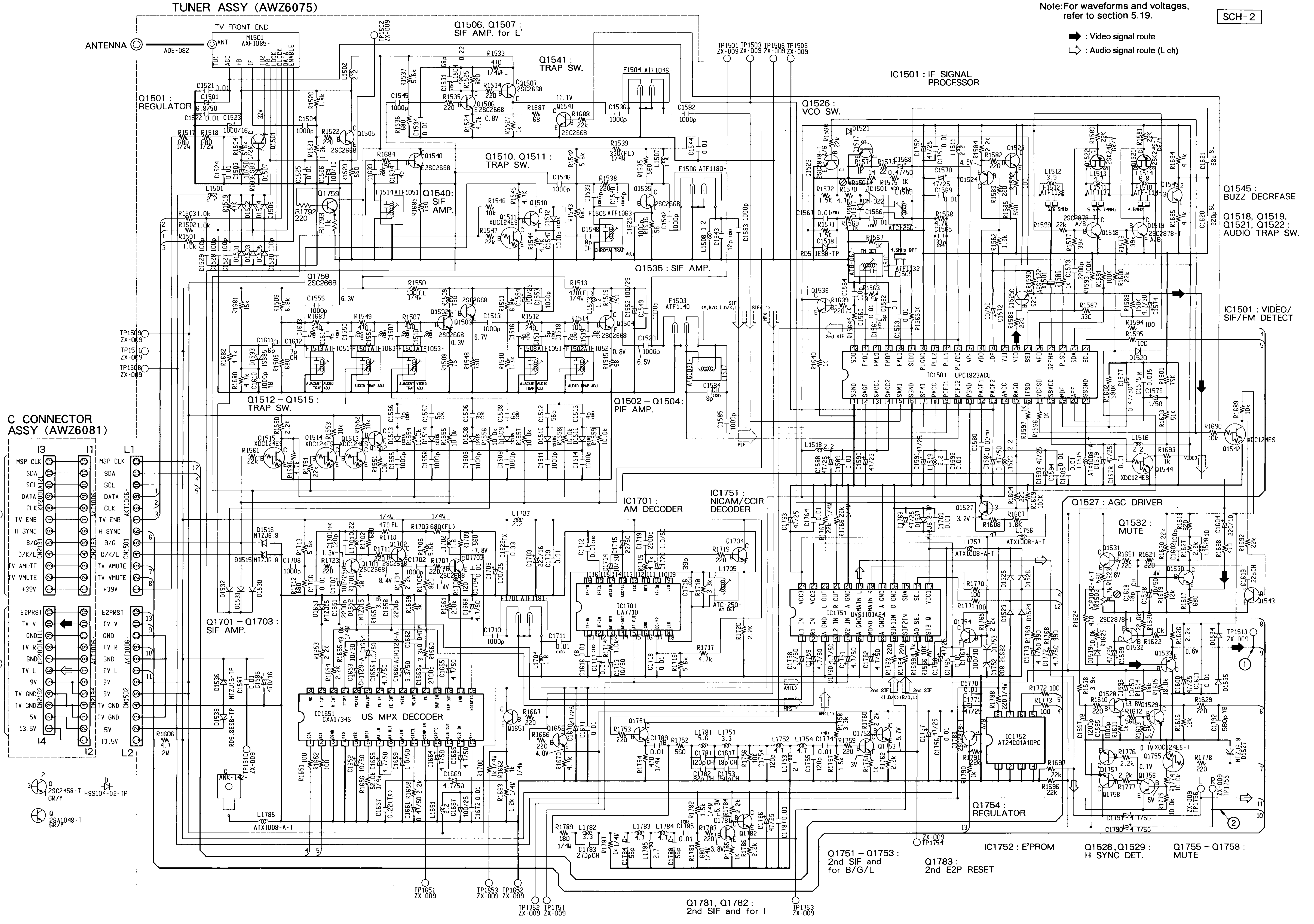
3. The transistor terminal marked with E or ⊏ shows the emitter.
4. The diode terminal marked with ◎ or ⊂ shows cathode side.
5. The capacitor terminal marked with ◎ or ⊏ shows negative terminal.
6. The parts mounted on each PCB include all necessary parts for several destinations. For further information for respective destinations, be sure to check with the schematic diagram.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

5.1 OVERALL WIRING DIAGRAM


SCH-1
FRONT CONTROL ASSY (AWZ6083) (➡SCH-18)
DIGITAL ASSY (AWV1548)
(1/2) : DIGITAL BLOCK (➡SCH-7)
(2/2) : 3 LINE BLOCK (➡SCH-8)
R, G, B CRT DRIVE ASSEMBLIES (➡SCH-13)
AUDIO ASSY (AWZ6086) (➡SCH-10)
D66AP45-56L (SD-T50W1 ONLY)
SWM1030 (SD-T50W1)
B13DC65-51DW (SD-T43W1)
VR1 FOCUS VR ACX1082
FOCUS PACK
R CRT DRIVE Assy (AWZ6087)
G CRT DRIVE Assy (AWZ6088)
B CRT DRIVE Assy (AWZ6089)
AV I/O ASSY (AWZ6082)
(1/2) : AV I/O BLOCK (➡SCH-3)
(2/2) : TELETEXT BLOCK (➡SCH-4)
VIDEO・UCOM ASSY (AWV1542)
(1/2) : VIDEO BLOCK (➡SCH-5)
(2/2) : UCOM BLOCK (➡SCH-6)
A CONNECTOR ASSY (AWZ6079) (➡SCH-17)
B CONNECTOR ASSY (AWZ6080) (➡SCH-17)
POWER SUPPLY ASSY (AWV1546)
(1/3) : SW POWER SUPPLY BLOCK (➡SCH-14)
(2/3) : H. DEFLECTION BLOCK (➡SCH-15)
(3/3) : HIGH VOLTAGE BLOCK (➡SCH-16)
RELAY DRIVE ASSY (AWZ6094) (➡SCH-17)
POWER DOWN ASSY (AWZ6093) (➡SCH-17)
S TERMINAL ASSY (AWZ6085) (➡SCH-3)
AV2 ASSY (AWZ6084) (➡SCH-3)
D CONNECTOR ASSY (AWZ6092) (➡SCH-9)
Y/C ASSY (AWZ6091) (➡SCH-9)
TUNER ASSY (AWZ6075) (➡SCH-2)
C CONNECTOR ASSY (AWZ6081) (➡SCH-2)
ANTENNA
CONVERGENCE ASSY (AWV1520) (➡SCH-11)
B CONV DAC ASSY (AWZ6078 : SD-T50W1) (AWZ6154 : SD-T43W1) (➡SCH-12)
G CONV DAC ASSY (AWZ6077 : SD-T50W1) (AWZ6153 : SD-T43W1) (➡SCH-12)
R CONV DAC ASSY (AWZ6076 : SD-T50W1) (AWZ6152 : SD-T43W1) (➡SCH-12)
L1 : DY (R) ATL1112
L2 : DY (G) ATL1112
L3 : DY (B) ATL1112
S1 : VOLTAGE SELECTOR AKX7001
T1 ATS1555
110V 120-127V 220-230V 240V
S2 : POWER ASG1082
AC IN ASSY (AWZ6090) (➡SCH-17)
AC 110V/120-127V/220-230V/240V 50/60Hz
AC INLET AKP1021
AC POWER CORD ADG1107 OR ADG1109
A B C D E F
1 2 3 4 5 6 7 8 9

5.2 TUNER AND C CONNECTOR ASSEMBLIES

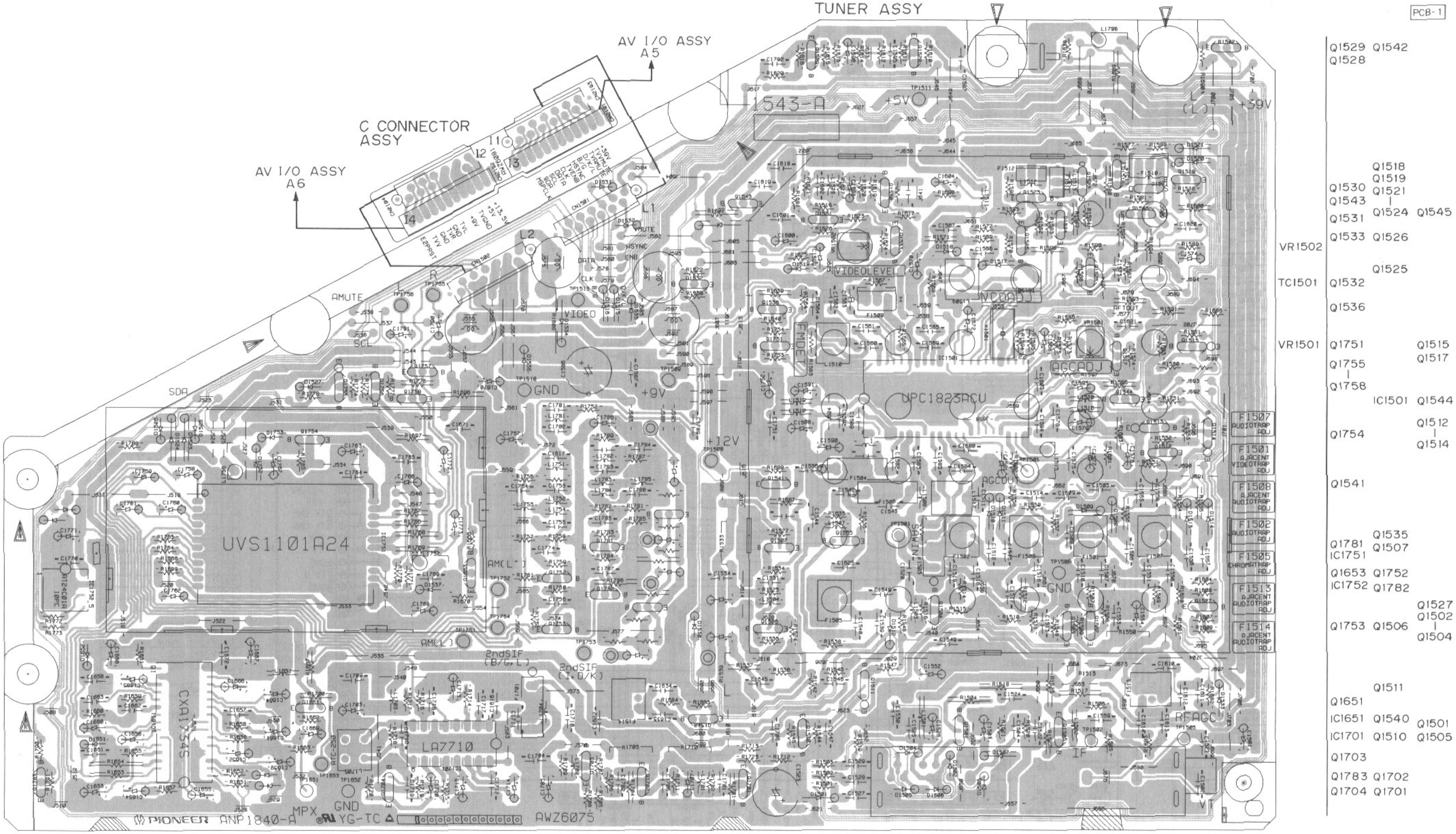

TUNER ASSY (AWZ6075)
TV FRONT END
M1501
AXF1085-
ANTENNA
ADE-082
Q1501 : REGULATOR
Q1506, Q1507 : SIF AMP. for L'
Q1541 : TRAP SW.
Q1510, Q1511 : TRAP SW.
Q1540: SIF AMP.
Q1535 : SIF AMP.
Q1512 – Q1515 : TRAP SW.
Q1502 – Q1504 : PIF AMP.
Q1759
2SC2668
F1504 ATF1046-
F1506 ATF1180-
F1503 ATF1140
TP1501 ZX-009
TP1503 ZX-009
TP1506 ZX-009
TP1505 ZX-009
TP1509 ZX-009
TP1511 ZX-009
TP1508 ZX-009
IC1501 : IF SIGNAL PROCESSOR
Q1526 : VCO SW.
IC1501
UPC1823ACU
Q1545 : BUZZ DECREASE
Q1518, Q1519, Q1521, Q1522 : AUDIO TRAP SW.
IC1501 : VIDEO/SIF/FM DETECT
Q1527 : AGC DRIVER
Q1532 : MUTE
Q1542
XDC124ES
Q1544
Q1543
C CONNECTOR ASSY (AWZ6081)
I3
I1
L1
MSP CLK
SDA
SCL
DATA
CLK
TV ENB
H SYNC
B/G
D/K/L
TV AMUTE
TV VMUTE
+39V
AV I/O ASSY (1/2) A5 (➡SCH-3)
CN1501
AKT1006-
E2PRST
TV V
GND
TV R
TV L
9V
TV GND
5V
13.5V
AV I/O ASSY (1/2) A6 (➡SCH-3)
CN1502
I4
I2
L2
IC1701 : AM DECODER
IC1751 : NICAM/CCIR DECODER
Q1701 – Q1703 : SIF AMP.
IC1701
LA7710
IC1751 UVS1101A24
IC1651
CXA1734S
US MPX DECODER
F1701 ATF1181-
IC1752
AT24C01A10PC
Q1754 : REGULATOR
IC1752 : E²PROM
Q1751 – Q1753 : 2nd SIF and for B/G/L
Q1783 : 2nd E2P RESET
Q1781, Q1782 : 2nd SIF and for I
Q1528,Q1529 : H SYNC DET.
Q1755 – Q1758 : MUTE
TP1513 ZX-009
TP1510 ZX-009
TP1754 ZX-009
TP1755 ZX-009
TP1651 ZX-009
TP1653 ZX-009
TP1652 ZX-009
TP1752 ZX-009
TP1751 ZX-009
TP1753 ZX-009
ANK-142-
ATX1008-A-T
Q 2SC2458-T GR/Y
D HSS104-02-TP
Q 2SA1048-T GR/Y

Note:For waveforms and voltages, refer to section 5.19.

SCH-2

➡ : Video signal route

⇨ : Audio signal route (L ch)

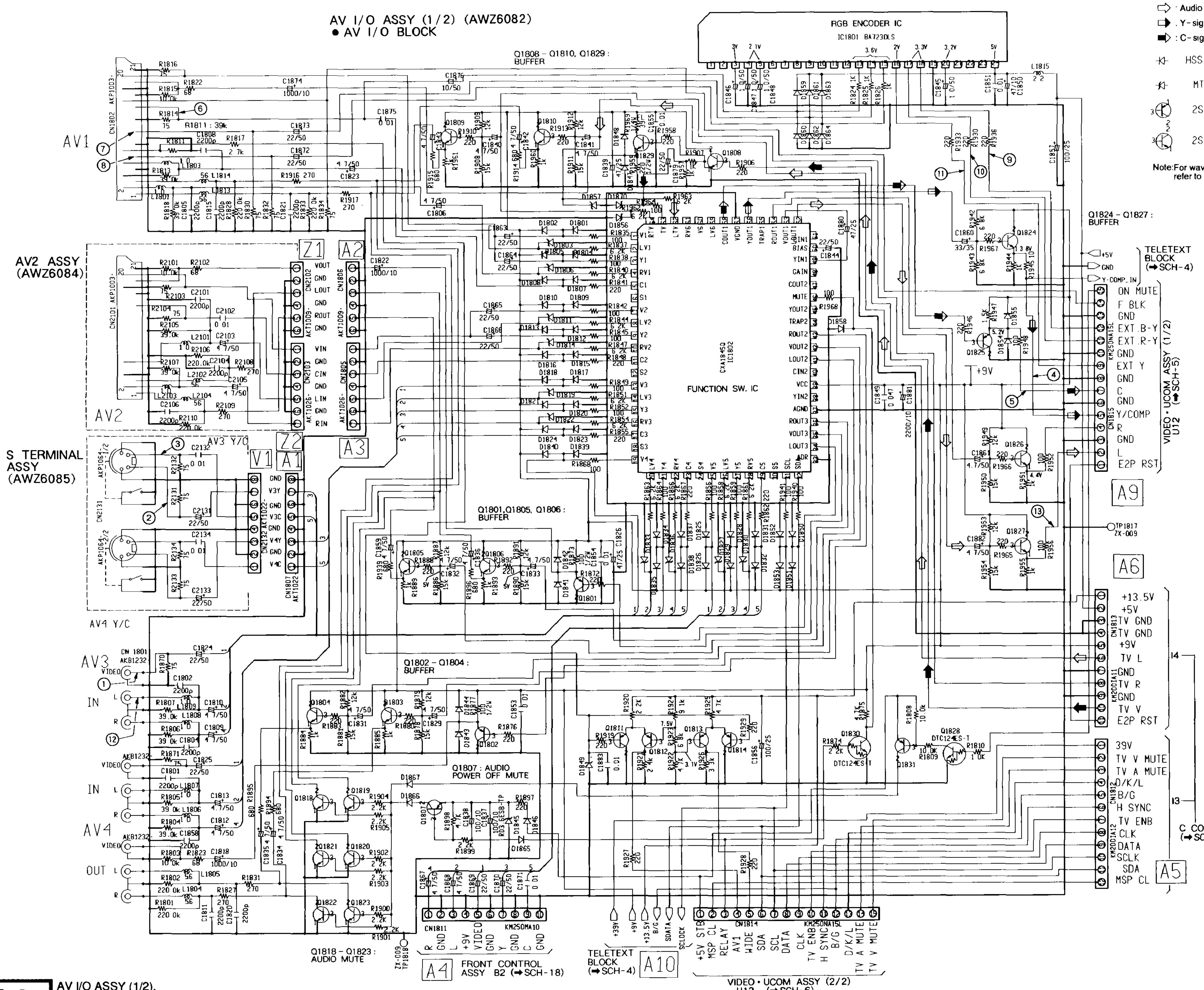

TUNER ASSY
AV I/O ASSY
A5
C CONNECTOR
ASSY
AV I/O ASSY
A6
PCB-1
I1
I2
I3
I4
L1
L2
1543-A
+5V
+39V
AMUTE
SCL
SDA
VIDEO
GND
+9V
+12V
VIDEOLEVEL
VCOADJ
FMDET
AGCADJ
UPC1823ACU
AGCDET
SAWIN
UVS1101A24
AM(L")
AM(L)
2ndSIF
(B/G,L)
2ndSIF
(I,D/K)
CXA1734S
LA7710
RFAGC
IF
F1507
AUDIOTRAP
ADJ
F1501
AJACENT
VIDEOTRAP
ADJ
F1508
AJACENT
AUDIOTRAP
ADJ
F1502
AUDIOTRAP
ADJ
F1505
CHROMATRAP
ADJ
F1513
AJACENT
AUDIOTRAP
ADJ
F1514
AJACENT
AUDIOTRAP
ADJ
PIONEER ANP1840-A
MPX
GND
YG-TC
AWZ6075
Q1529 Q1542
Q1528
Q1518
Q1519
Q1530 Q1521
Q1543
Q1531 Q1524 Q1545
Q1533 Q1526
VR1502
Q1525
TC1501 Q1532
Q1536
VR1501 Q1751 Q1515
Q1755 Q1517
Q1758
IC1501 Q1544
Q1512
Q1514
Q1754
Q1541
Q1781 Q1535
IC1751 Q1507
Q1653 Q1752
IC1752 Q1782
Q1527
Q1502
Q1753 Q1506
Q1504
Q1511
Q1651
IC1651 Q1540 Q1501
IC1701 Q1510 Q1505
Q1703
Q1783 Q1702
Q1704 Q1701

- This diagram is viewed from the mounted parts side.

5.3 AV I/O (1/2), AV2 AND S TERMINAL ASSEMBLIES

SCH-3

➡ : Video signal route
⇨ : Audio signal route (L ch)
⇨ . Y-signal route
➡ : C-signal route


AV I/O ASSY (1/2) (AWZ6082)
● AV I/O BLOCK
RGB ENCODER IC
IC1801 BA7230LS
Q1808 - Q1810, Q1829 :
BUFFER
AV1
AV2 ASSY
(AWZ6084)
AV2
S TERMINAL
ASSY
(AWZ6085)
AV4 Y/C
AV3 Y/C
AV3
IN
AV4
OUT
VIDEO
L
R
CN1802 AKP1003-
CN2101 AKP1003-
CN2102
CN2103
CN1806
CN1805
CN1807
CN2131
AKP1064
VOUT
GND
LOUT
ROUT
VIN
CIN
LIN
RIN
V3Y
V3C
V4Y
V4C
Z1
Z2
A1
A2
A3
V1
FUNCTION SW. IC
CXA1845Q
IC1802
Q1801,Q1805, Q1806 :
BUFFER
Q1802 - Q1804 :
BUFFER
Q1807 : AUDIO
POWER OFF MUTE
Q1818 - Q1823 :
AUDIO MUTE
Q1824 - Q1827 :
BUFFER
TELETEXT
BLOCK
(➡SCH-4)
ON MUTE
F BLK
GND
EXT B-Y
EXT R-Y
EXT Y
C
Y/COMP
R
L
E2P RST
CN1815 KM250NA15L
VIDEO・UCOM ASSY (1/2)
U12
(➡SCH-5)
A9
TP1817
ZX-009
A6
CN1813
KM200NA11
+13.5V
+5V
TV GND
+9V
TV L
TV R
TV V
I4
CN1812
KM200NA12
39V
TV V MUTE
TV A MUTE
D/K/L
B/G
H SYNC
TV ENB
CLK
DATA
SCLK
SDA
MSP CL
I3
C CONNECTOR ASSY
(➡SCH-2)
A5
CN1811 KM250NA10
FRONT CONTROL
ASSY B2 (➡SCH-18)
A4
TELETEXT
BLOCK
(➡SCH-4)
A10
CN1814 KM250NA15L
+5V STB
MSP CL
RELAY
AV1
WIDE
SDA
SCL
DATA
CLK
TV ENB
H SYNC
B/G
D/K/L
TV A MUTE
TV V MUTE
VIDEO・UCOM ASSY (2/2)
U13 (➡SCH-6)
L1815
DTC124ES-T
Q1828
Q1830

HSS104-02-TP
MTZJ12-TP
2SA1048-T
2SC2458-T

Note:For waveforms and voltages, refer to section 5.19.

EURO-AV1

1	Audio Output R
2	Audio Input R
3	Audio Output L
4	Audio Ground
5	Blue Ground
6	Audio Input L
7	Blue
8	Swithing Voltage
9	Green Ground
10	
11	Green
12	
13	Red Ground
14	
15	Red or Choroma
16	Blanking Signal
17	Video Output Ground
18	Video Input Ground
19	Video Out
20	Video Input or Luminance
21	Ground

EURO-AV2

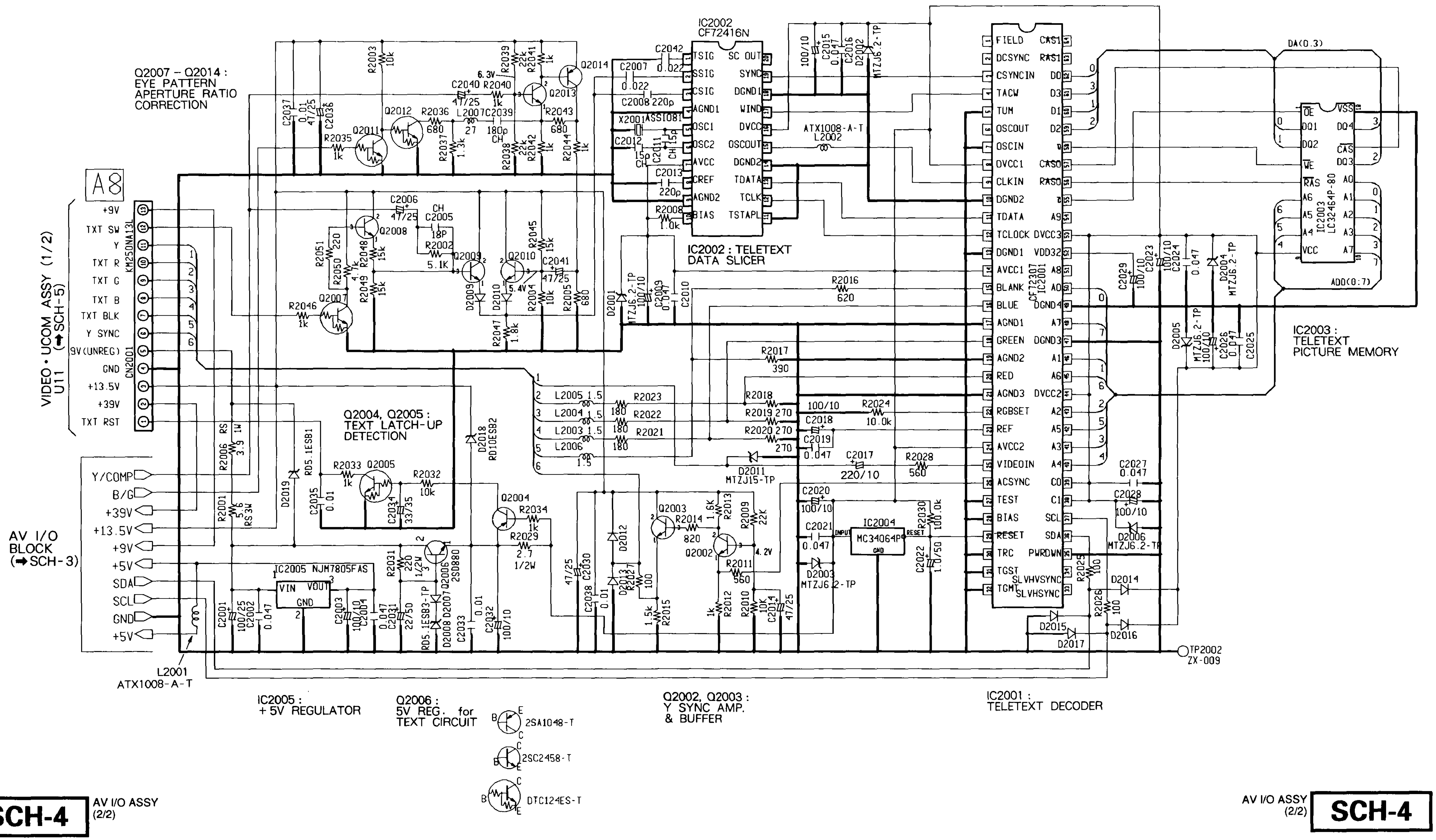
1	Audio Output R
2	Audio Input R
3	Audio Output L
4	Audio Ground
5	
6	Audio Input L
7	
8	
9	
10	
11	
12	
13	
14	
15	Chroma
16	
17	Video Output Ground
18	Video Input Ground
19	Video Out
20	Video Input or Luminance
21	Ground

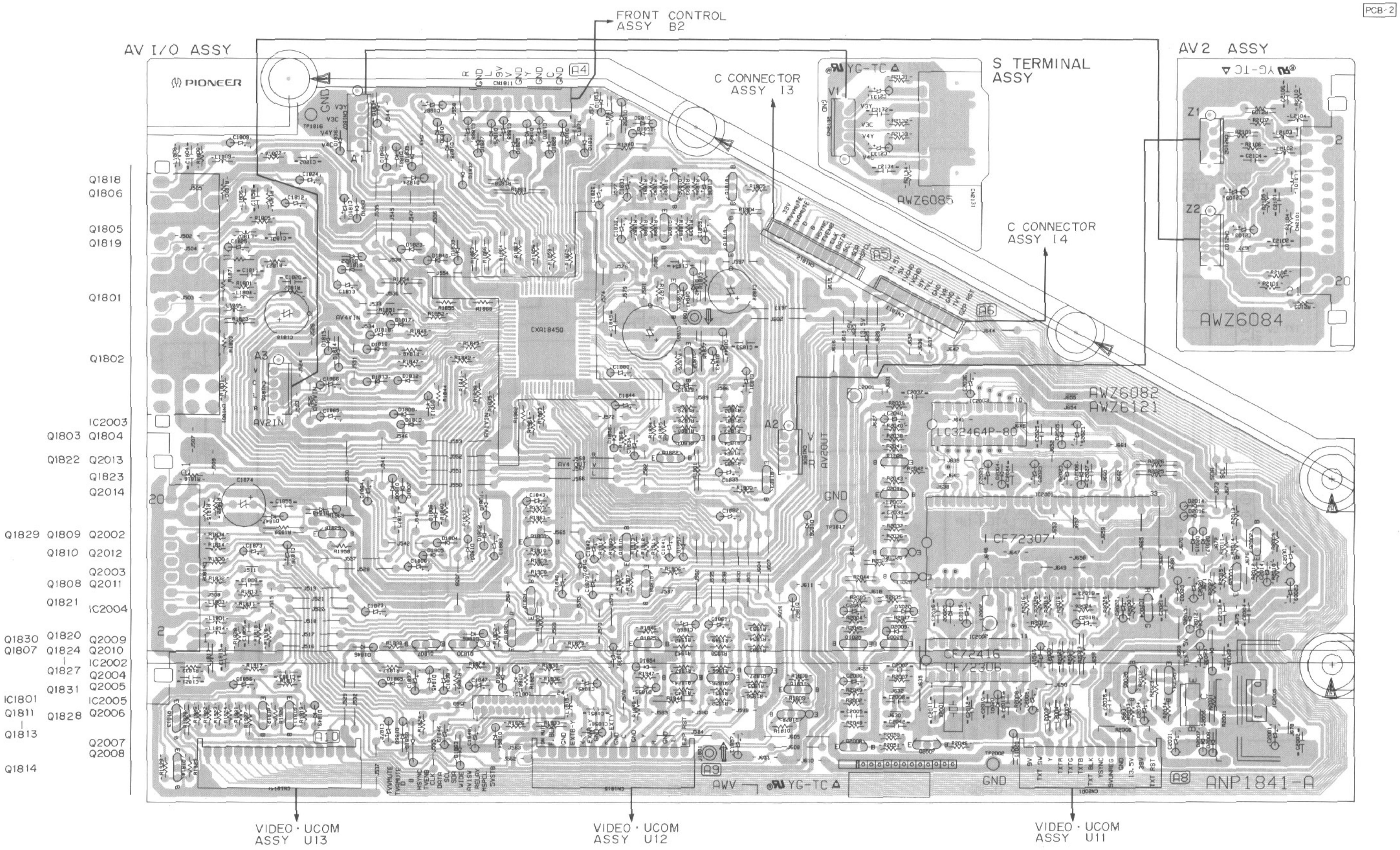
5.4 AV I/O ASSY (2/2)

AV I/O ASSY (2/2) (AWZ6082)
• TELETEXT BLOCK

Note:For waveforms and voltages, refer to section 5.19.

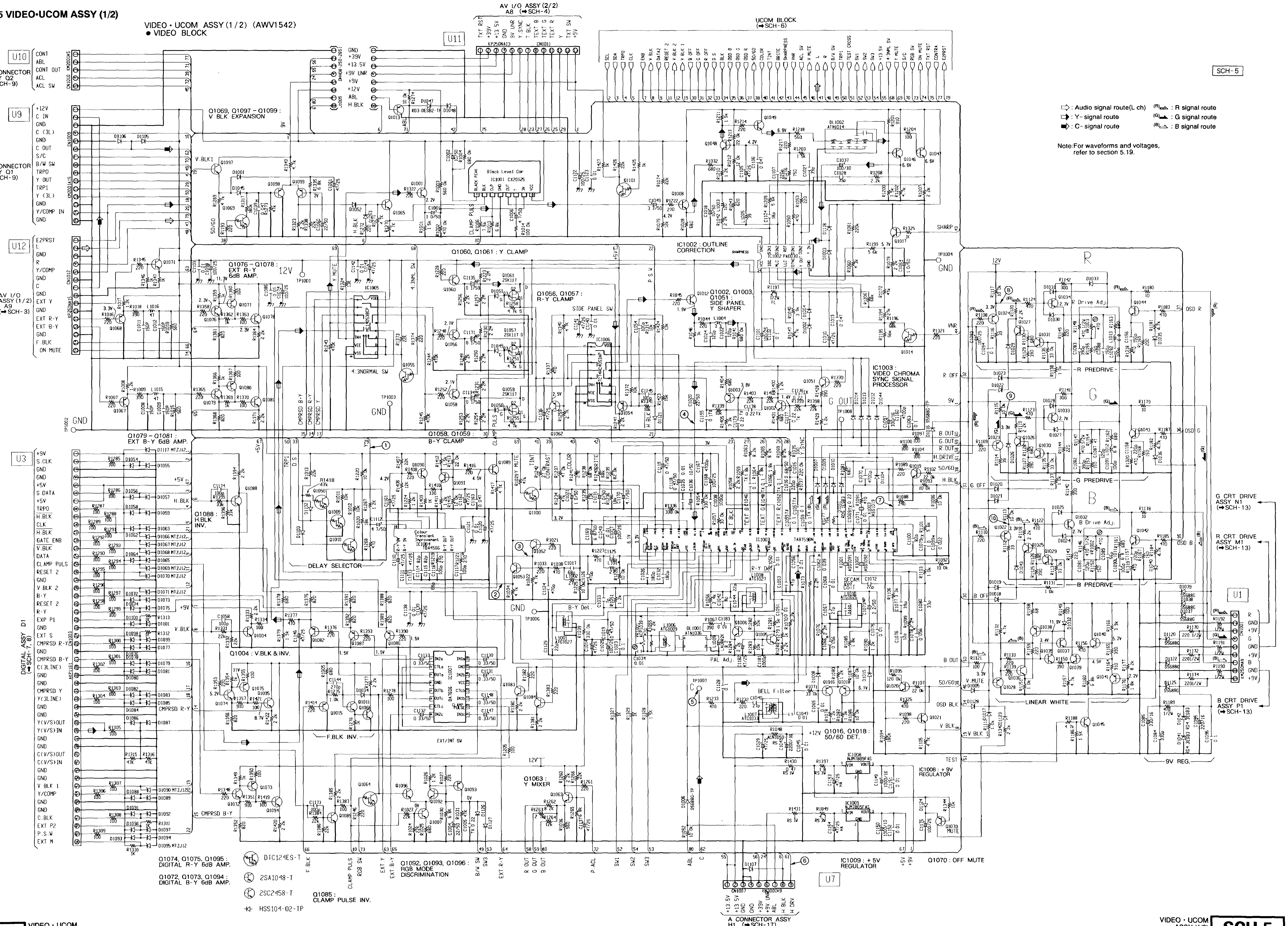
SCH-4


Q2007 – Q2014 : EYE PATTERN APERTURE RATIO CORRECTION
A8
VIDEO • UCOM ASSY (1/2) U11 (➡SCH-5)
CN2001 KM250NA13L
+9V
TXT SW
Y
TXT R
TXT G
TXT B
TXT BLK
Y SYNC
9V(UNREG)
GND
+13.5V
+39V
TXT RST
AV I/O BLOCK (➡SCH-3)
Y/COMP
B/G
+39V
+13.5V
+9V
+5V
SDA
SCL
GND
+5V
L2001 ATX1008-A-T
IC2002 CF72416N
TSIG
SSIG
CSIG
AGND1
OSC1
OSC2
AVCC
CREF
AGND2
BIAS
SC OUT
SYNC
DGND1
WIND
DVCC
OSCOUT
DGND2
TDATA
TCLK
TSTAPL
X2001 ASS1081
IC2002 : TELETEXT DATA SLICER
ATX1008-A-T L2002
IC2001 CF72307
FIELD
DCSYNC
CSYNCIN
TACW
TUM
OSCOUT
OSCIN
DVCC1
CLKIN
DGND2
TDATA
TCLOCK
DGND1
AVCC1
BLANK
BLUE
AGND1
GREEN
AGND2
RED
AGND3
RGBSET
REF
AVCC2
VIDEOIN
ACSYNC
TEST
BIAS
RESET
TRC
TGST
TGMT
CAS1
RAS1
D0
D3
D1
D2
CASO
RASO
DVCC3
VDD32
A8
A0
DGND4
A7
DGND3
A1
A6
DVCC2
A2
A5
A3
A4
C0
C1
SCL
SDA
PWRDWN
SLVHVSYNC
SLVHSYNC
IC2003 LC3246P-80
OE
VSS
DQ1
DQ4
DQ2
CAS
WE
DQ3
RAS
A0
A1
A2
A3
A4
A5
A6
A7
VCC
DA(0:3)
ADD(0:7)
IC2003 : TELETEXT PICTURE MEMORY
Q2004, Q2005 : TEXT LATCH-UP DETECTION
IC2005 NJM7805FAS
VIN VOUT GND
IC2004 MC34064P
INPUT RESET GND
D2011 MTZJ15-TP
D2003 MTZJ6.2-TP
D2006 MTZJ6.2-TP
D2002 MTZJ6.2-TP
D2004 MTZJ6.2-TP
D2005 MTZJ6.2-TP
D2018 RD10ESB2
D2019 RD5.1ESB1
D2008 RD5.1ESB3-TP
Q2006 2SD880
TP2002 ZX-009
IC2005 : +5V REGULATOR
Q2006 : 5V REG. for TEXT CIRCUIT
Q2002, Q2003 : Y SYNC AMP. & BUFFER
IC2001 : TELETEXT DECODER
2SA1048-T
2SC2458-T
DTC124ES-T
B
C
E


PCB-2
FRONT CONTROL ASSY B2
AV I/O ASSY
PIONEER
C CONNECTOR ASSY I3
S TERMINAL ASSY
AV2 ASSY
C CONNECTOR ASSY I4
AWZ6085
AWZ6084
AWZ6082
AWZ6121
CXA1845Q
LC32464P-80
LC72307
LC72416
LC72306
ANP1841-A
AWV
YG-TC
AV2IN
AV4VIN
AV2OUT
GND
A1
A2
A3
A4
A5
A6
A8
A9
A10
Z1
Z2
V1
Q1818
Q1806
Q1805
Q1819
Q1801
Q1802
IC2003
Q1803 Q1804
Q1822 Q2013
Q1823
Q2014
Q1829 Q1809 Q2002
Q1810 Q2012
Q2003
Q1808 Q2011
Q1821
IC2004
Q1830 Q1820 Q2009
Q1807 Q1824 Q2010
Q1827 IC2002
Q2004
Q1831 Q2005
IC1801 IC2005
Q1811 Q1828 Q2006
Q1813
Q2007
Q2008
Q1814
VIDEO · UCOM ASSY U13
VIDEO · UCOM ASSY U12
VIDEO · UCOM ASSY U11

• This diagram is viewed from the mounted parts side.

5.5 VIDEO•UCOM ASSY (1/2)

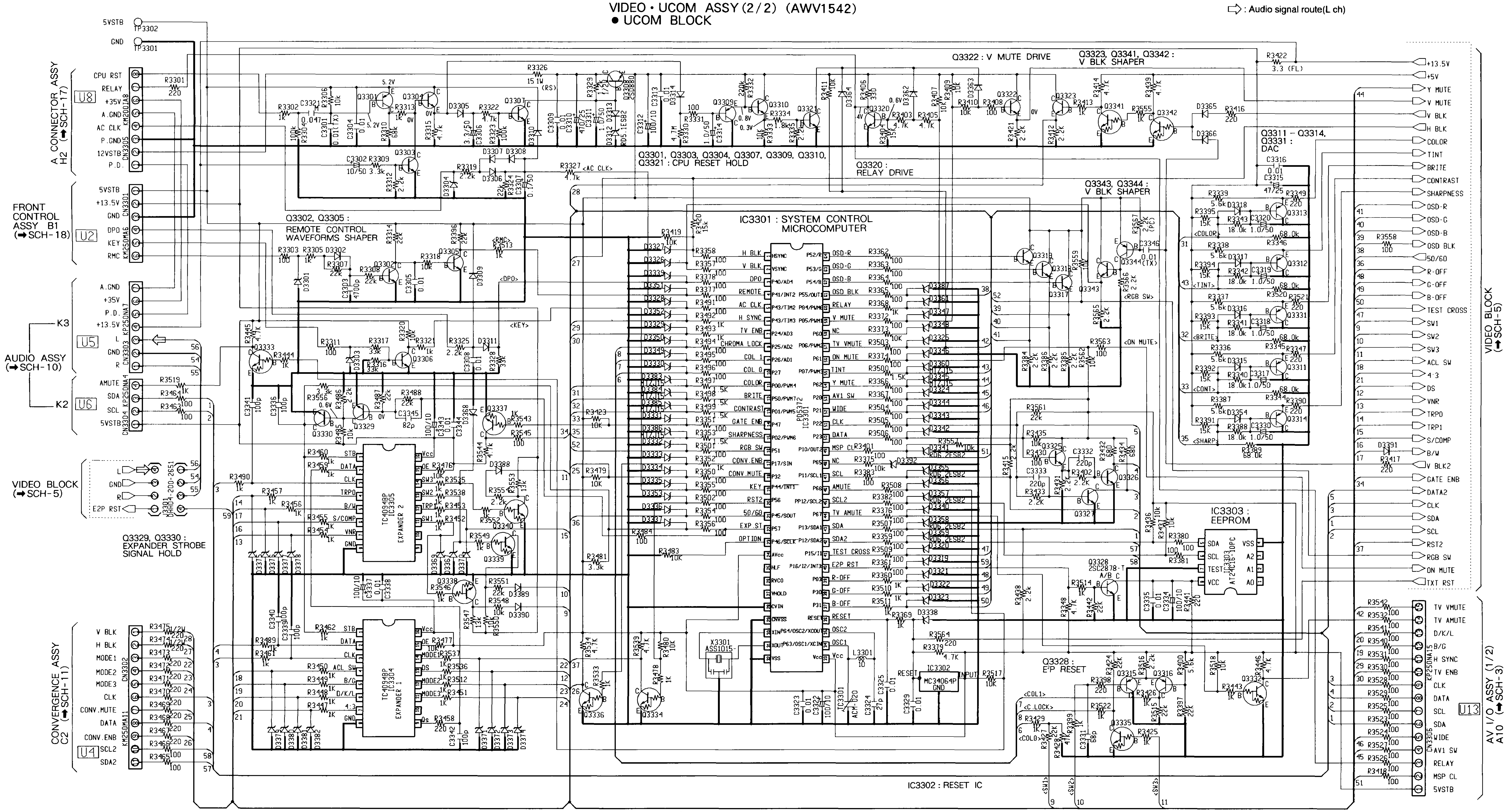

VIDEO • UCOM ASSY (1/2) (AWV1542)
• VIDEO BLOCK
AV I/O ASSY (2/2)
A8 (→SCH-4)
UCOM BLOCK
(→SCH-6)
SCH-5
U10
D CONNECTOR ASSY Q2 (→SCH-9)
U9
D CONNECTOR ASSY Q1 (→SCH-9)
U12
AV I/O ASSY (1/2) A9 (→SCH-3)
U3
DIGITAL ASSY D1 (→SCH-18)
U11
U1
U7
Q1069, Q1097 – Q1099 : V BLK EXPANSION
Black Level Cor IC1001 CX20125
Q1076 – Q1078 : EXT R-Y 6dB AMP.
Q1060, Q1061 : Y CLAMP
Q1056, Q1057 : R-Y CLAMP
IC1002 : OUTLINE CORRECTION
Q1002, Q1003, Q1051 : SIDE PANEL Y SHAPER
IC1003 : VIDEO CHROMA SYNC SIGNAL PROCESSOR
Q1079 – Q1081 : EXT B-Y 6dB AMP.
Q1058, Q1059 : B-Y CLAMP
Q1088 : H.BLK INV.
DELAY SELECTOR
Colour Transient Improvement IC1004
Q1004 : V.BLK & INV.
F.BLK INV.
EXT/INT SW
Q1063 : Y MIXER
BELL Filter
PAL Adj.
SECAM Coil
Q1016, Q1018 : 50/60 DET.
IC1008 : +9V REGULATOR
IC1009 : +5V REGULATOR
Q1070 : OFF MUTE
R Drive Adj.
G
B Drive Adj.
R PREDRIVE
G PREDRIVE
B PREDRIVE
LINEAR WHITE
9V REG.
G CRT DRIVE ASSY N1 (→SCH-13)
R CRT DRIVE ASSY M1 (→SCH-13)
B CRT DRIVE ASSY P1 (→SCH-13)
A CONNECTOR ASSY H1 (→SCH-17)
Q1074, Q1075, Q1095 : DIGITAL R-Y 6dB AMP.
Q1072, Q1073, Q1094 : DIGITAL B-Y 6dB AMP.
Q1092, Q1093, Q1096 : RGB MODE DISCRIMINATION
Q1085 : CLAMP PULSE INV.
DTC124ES-T
2SA1048-T
2SC2458-T
HSS104-02-TP

⇨ : Audio signal route(L ch)
➡ : Y- signal route
➡ : C- signal route
(R) : R signal route
(G) : G signal route
(B) : B signal route

Note:For waveforms and voltages, refer to section 5.19.

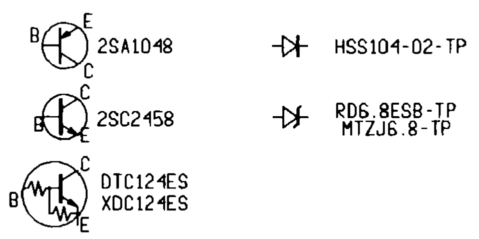
5.6 VIDEO•UCOM ASSY (2/2)

VIDEO • UCOM ASSY (2/2) (AWV1542)
● UCOM BLOCK

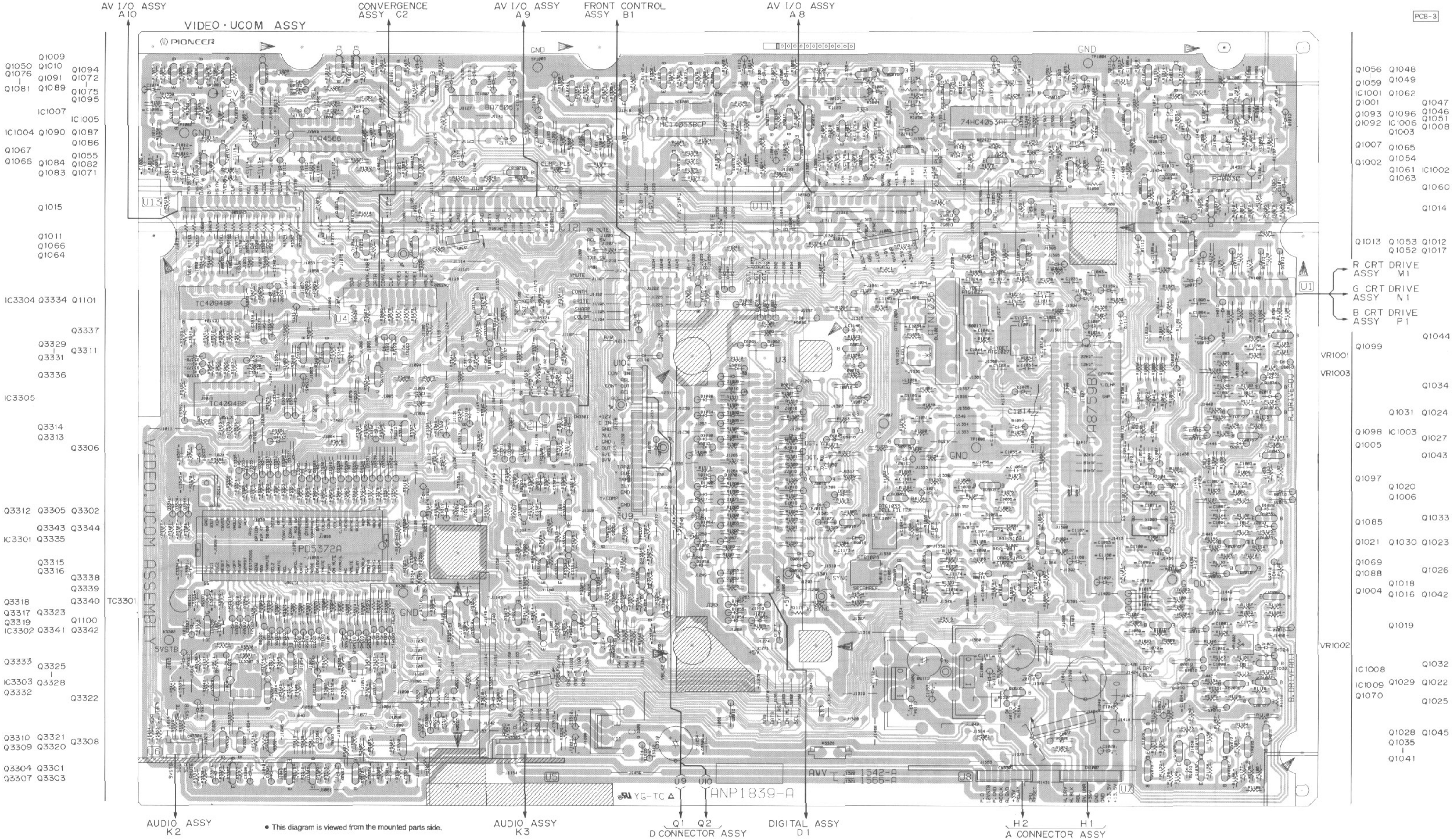

⇨ : Audio signal route(L ch)
A CONNECTOR ASSY H2 (⬆SCH-17) U8
FRONT CONTROL ASSY B1 (➡SCH-18) U2
AUDIO ASSY (➡SCH-10) K3 U5 K2 U6
VIDEO BLOCK (➡SCH-5)
CONVERGENCE ASSY C2 (⬆SCH-11) U4
Q3322 : V MUTE DRIVE
Q3323, Q3341, Q3342 : V BLK SHAPER
Q3301, Q3303, Q3304, Q3307, Q3309, Q3310, Q3321 : CPU RESET HOLD
Q3320 : RELAY DRIVE
Q3311 – Q3314, Q3331 : DAC
Q3302, Q3305 : REMOTE CONTROL WAVEFORMS SHAPER
IC3301 : SYSTEM CONTROL MICROCOMPUTER
Q3343, Q3344 : V BLK SHAPER
IC3303 : EEPROM
Q3329, Q3330 : EXPANDER STROBE SIGNAL HOLD
IC3305 TC4094BP EXPANDER 2
IC3304 TC4094BP EXPANDER 1
Q3328 : E²P RESET
IC3302 : RESET IC
VIDEO BLOCK (⬆SCH-5)
AV I/O ASSY (1/2) A10 (⬆SCH-3) U13
Q3315, Q3316, Q3335 : COLOR SYSTEM DISCRIMINATION

IC3301 (PD5372A)

Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	A	9	0	17	A	25	NC	33	5.2	41	0	49	5.2	57	0
2	A	10	0	18	5	26	NC	34	5.2	42	A	50	5.2	58	NC
3	2.9	11	A	19	5	27	NC	35	5.2	43	A	51	5.2	59	0
4	5.2	12	A	20	0	28	0	36	5.2	44	0	52	0	60	0
5	A	13	A	21	0	29	0	37	0	45	A	53	0	61	0
6	A	14	A	22	A	30	2.3	38	0	46	3.8	54	0	62	0
7	0	15	A	23	——	31	2.5	39	0	47	A	55	A	63	0
8	5.2	16	0	24	5.2	32	0	40	0	48	NC	56	0	64	0

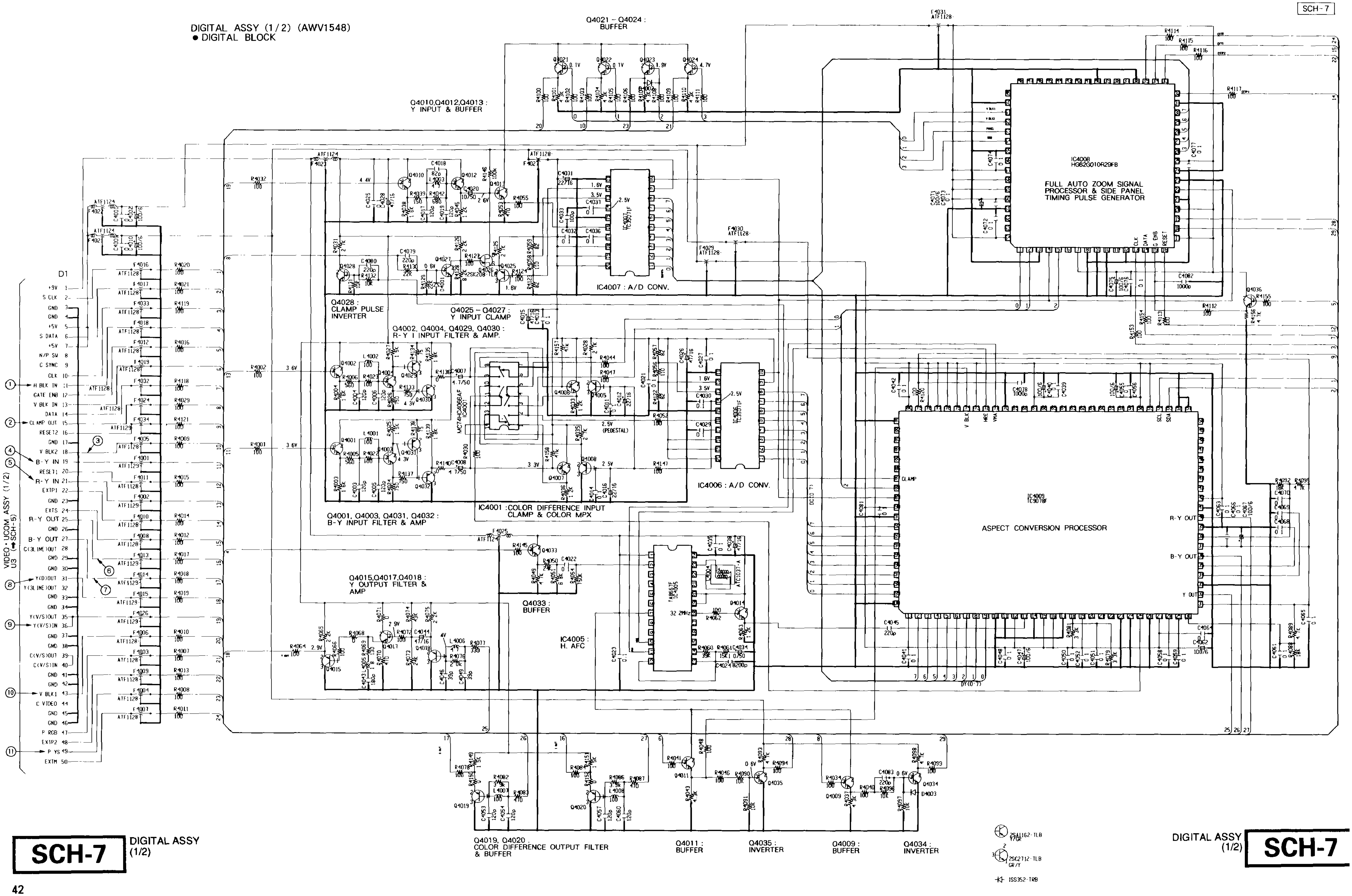

2SA1048
2SC2458
DTC124ES
XDC124ES
HSS104-02-TP
RD6.8ESB-TP
MTZJ6.8-TP

A :


PCB-3
VIDEO·UCOM ASSY
AV I/O ASSY A10
CONVERGENCE ASSY C2
AV I/O ASSY A9
FRONT CONTROL ASSY B1
AV I/O ASSY A8
R CRT DRIVE ASSY M1
G CRT DRIVE ASSY N1
B CRT DRIVE ASSY P1
AUDIO ASSY K2
AUDIO ASSY K3
Q1 Q2 D CONNECTOR ASSY
DIGITAL ASSY D1
H2 H1 A CONNECTOR ASSY
U1
U2
U3
U4
U5
U6
U7
U8
U9
U10
U11
U12
U13
ANP1839-A
AWV 1542-A 1566-A
PIONEER
GND
TC4094BP
PD5372A
74HC4053AP
MC14053BCF
TC3301
VR1001
VR1003
VR1002
Q1009
Q1050 Q1010 Q1094
Q1076 Q1091 Q1072
Q1081 Q1089 Q1075
Q1095
IC1007 IC1005
IC1004 Q1090 Q1087
Q1086
Q1067 Q1055
Q1066 Q1084 Q1082
Q1083 Q1071
Q1015
Q1011
Q1066
Q1064
IC3304 Q3334 Q1101
Q3337
Q3329 Q3311
Q3331
Q3336
IC3305
Q3314
Q3313
Q3306
Q3312 Q3305 Q3302
Q3343 Q3344
IC3301 Q3335
Q3315
Q3316
Q3338
Q3339
Q3318 Q3340
Q3317 Q3323
Q3319 Q1100
IC3302 Q3341 Q3342
Q3333 Q3325
IC3303 Q3328
Q3332
Q3322
Q3310 Q3321 Q3308
Q3309 Q3320
Q3304 Q3301
Q3307 Q3303
Q1056 Q1048
Q1059 Q1049
IC1001 Q1062
Q1001 Q1047
Q1093 Q1096 Q1046
Q1092 IC1006 Q1051
Q1003 Q1008
Q1007 Q1065
Q1002 Q1054
Q1061 IC1002
Q1063
Q1060
Q1014
Q1013 Q1053 Q1012
Q1052 Q1017
Q1044
Q1099
Q1034
Q1031 Q1024
Q1098 IC1003
Q1005 Q1027
Q1043
Q1097
Q1020
Q1006
Q1085 Q1033
Q1021 Q1030 Q1023
Q1069
Q1088 Q1026
Q1018
Q1004 Q1016 Q1042
Q1019
IC1008 Q1032
IC1009 Q1029 Q1022
Q1070
Q1025
Q1028 Q1045
Q1035
Q1041

• This diagram is viewed from the mounted parts side.

5.7 DIGITAL ASSY (1/2)


SCH-7
DIGITAL ASSY (1/2) (AWV1548)
● DIGITAL BLOCK
Q4021 - Q4024 :
BUFFER
Q4010,Q4012,Q4013 :
Y INPUT & BUFFER
IC4008
HG62G010R29FB
FULL AUTO ZOOM SIGNAL
PROCESSOR & SIDE PANEL
TIMING PULSE GENERATOR
IC4007 : A/D CONV.
Q4028 :
CLAMP PULSE
INVERTER
Q4025 - Q4027 :
Y INPUT CLAMP
Q4002, Q4004, Q4029, Q4030 :
R-Y I INPUT FILTER & AMP.
MC74HC4066AF
IC4001
IC4001 :COLOR DIFFERENCE INPUT
CLAMP & COLOR MPX
IC4006 : A/D CONV.
Q4001, Q4003, Q4031, Q4032 :
B-Y INPUT FILTER & AMP
IC4009
TC9078F
ASPECT CONVERSION PROCESSOR
R-Y OUT
B-Y OUT
Y OUT
CLAMP
V BLK
HRE
VHA
SCL
SDA
CLK
DATA
G ENB
RESET
Q4015,Q4017,Q4018 :
Y OUTPUT FILTER &
AMP
Q4033 :
BUFFER
IC4005 :
H. AFC
TA8667F
IC4005
32 MHz
ATC0037-A
DY(0-7)
D1
+9V 1
S CLK 2
GND 3
GND 4
+5V 5
S DATA 6
+5V 7
N/P SW 8
C SYNC 9
CLK 10
H BLK IN 11
GATE ENB 12
V BLK IN 13
DATA 14
CLAMP OUT 15
RESET2 16
GND 17
V BLK2 18
B-Y IN 19
RESET1 20
R-Y IN 21
EXTP1 22
GND 23
EXTS 24
R-Y OUT 25
GND 26
B-Y OUT 27
C(3LINE)OUT 28
GND 29
GND 30
Y(D)OUT 31
Y(3LINE)OUT 32
GND 33
GND 34
Y(V/S)OUT 35
Y(V/S)IN 36
GND 37
GND 38
C(V/S)OUT 39
C(V/S)IN 40
GND 41
GND 42
V BLK1 43
C VIDEO 44
GND 45
GND 46
P RGB 47
EXTP2 48
P YS 49
EXTM 50
VIDEO・UCOM ASSY (1/2)
U3 (SCH-5)
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
Q4019, Q4020 :
COLOR DIFFERENCE OUTPUT FILTER
& BUFFER
Q4011 :
BUFFER
Q4035 :
INVERTER
Q4009 :
BUFFER
Q4034 :
INVERTER
2SA1162-TLB
Y/GR
2SC2712-TLB
GR/Y
1SS352-TRB

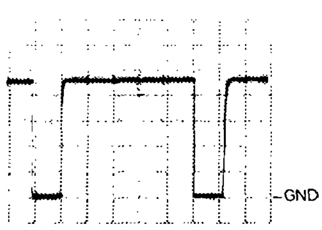
SCH-7 DIGITAL ASSY (1/2)

DIGITAL ASSY (1/2) **SCH-7**

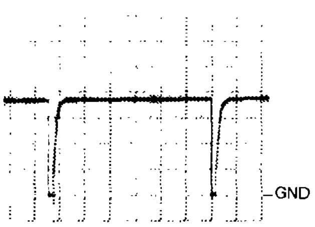
• Waveformes of DIGITAL ASSY

- Input signal : Color bar
- Picture quality : Standard
- Range : DC range (Unless otherwise noted)

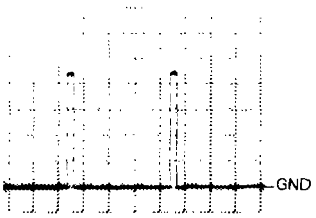
① **D1 - pin 11 (H. BLK IN)**
V : 2V/div. H : 10 μsec/div.
● 4 : 3 color-bar input



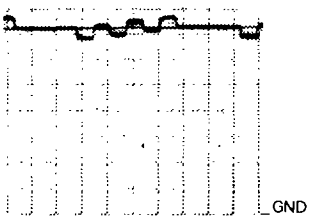
② **D1 - pin 15 (CLAMP OUT)**
V : 1V/div. H : 10 μsec/div.
● 4 : 3 color-bar input



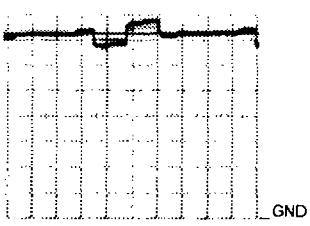
③ **D1 - pin 18 (V. BLK 2)**
V : 1V/div. H : 5msec/div.
● 4 : 3 color-bar input



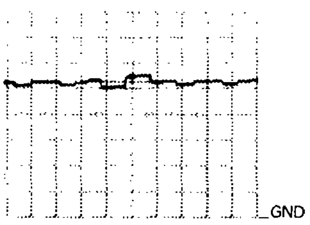
④ **D1 - pin 19 (B Y IN)**
V : 0.5V/div. H : 10 μsec/div.



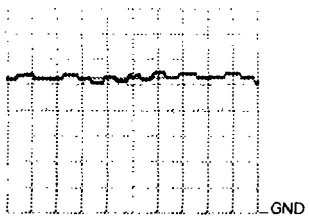
⑤ **D1 - pin 21 (R - Y IN)**
V : 0.5V/div. H : 10 μsec/div.



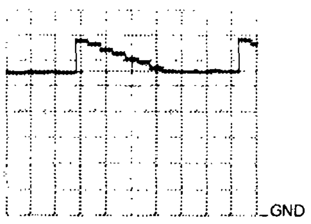
⑥ **D1 - pin 26 (R - Y OUT)**
V : 1V/div. H : 10 μsec/div.



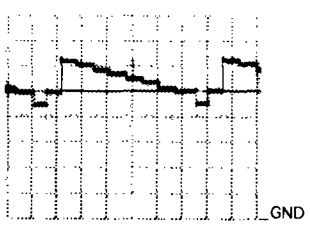
⑦ **D1 - pin 27 (B - Y OUT)**
V : 1V/div. H : 10 μsec/div.



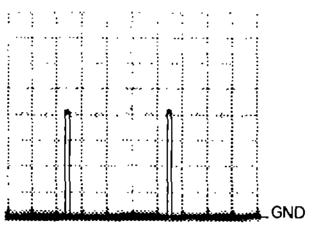
⑧ **D1 - pin 31 (Y (D) OUT)**
V : 0.5V/div. H : 10 μsec/div.



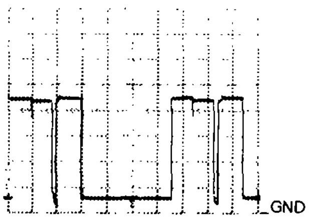
⑨ **D1 - pin 38 (Y (V/S) IN)**
V : 1V/div. H : 10 μsec/div.



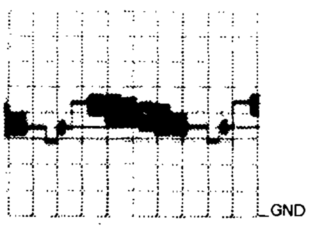
⑩ **D1 - pin 43 (V. BLK 1)**
V : 1V/div. H : 5msec/div.



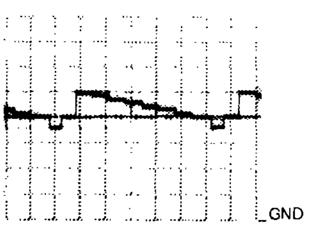
⑪ **D1 - pin 49 (P YS)**
V : 1V/div. H : 10 μsec/div.



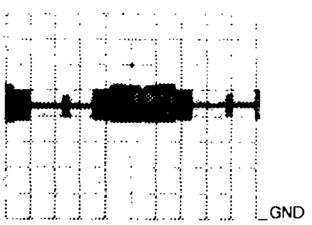
⑫ **D1 - pin 28 (C OUT)**
V : 1V/div. H : 10 μsec/div.



⑬ **D1 - pin 32 (Y OUT)**
V : 1V/div. H : 10 μsec/div.



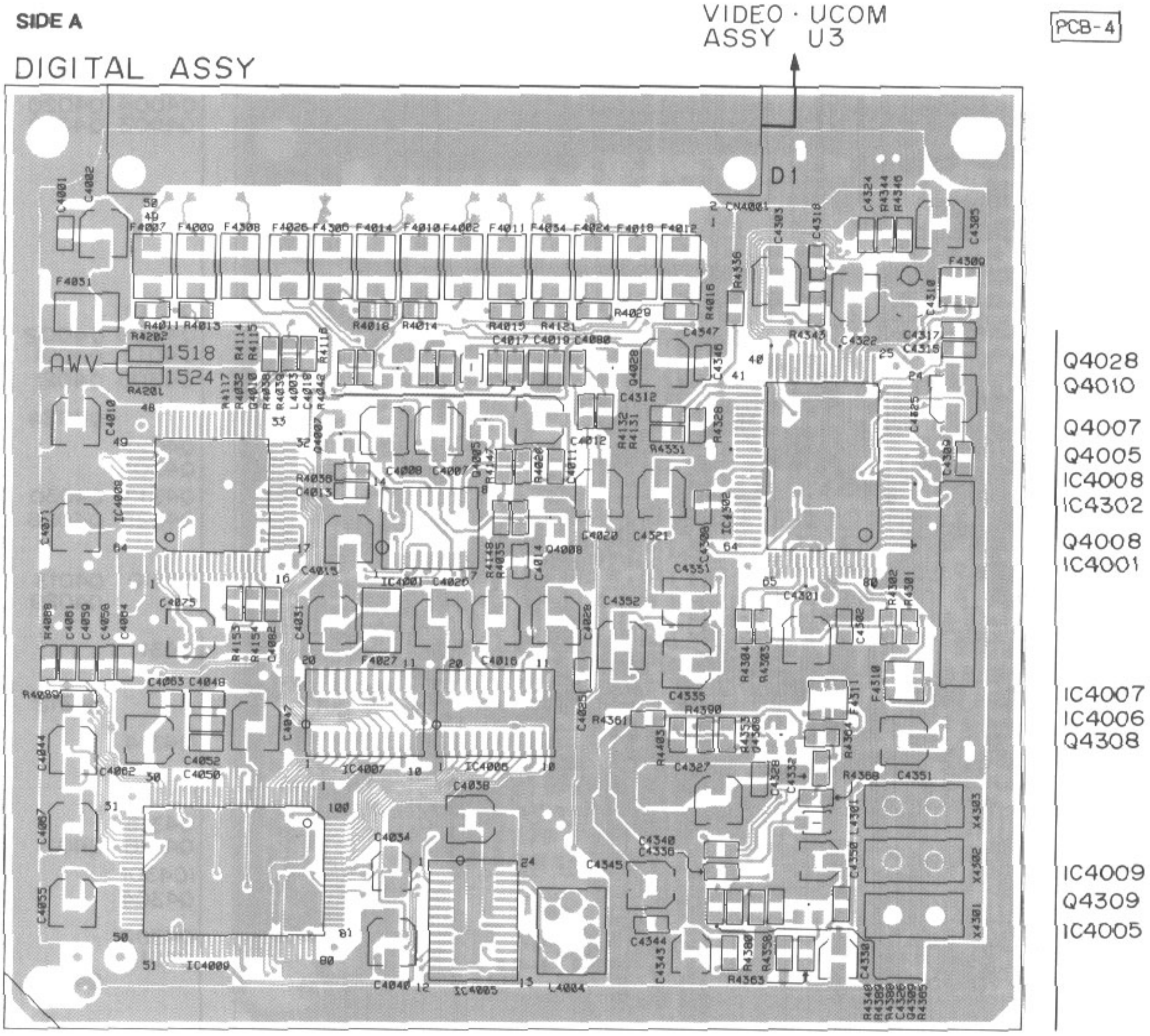
⑭ **D1 - pin 44 (C. VIDEO)**
V : 0.1V/div. H : 10 μsec/div.



SIDE A

PCB-4

DIGITAL ASSY


VIDEO · UCOM
ASSY U3
D1
CN4001
AWV
1518
1524
IC4008
IC4302
IC4001
IC4007
IC4006
IC4009
IC4005
L4004
X4301
X4302
X4303
Q4028
Q4010
Q4007
Q4005
IC4008
IC4302
Q4008
IC4001
IC4007
IC4006
Q4308
IC4009
Q4309
IC4005

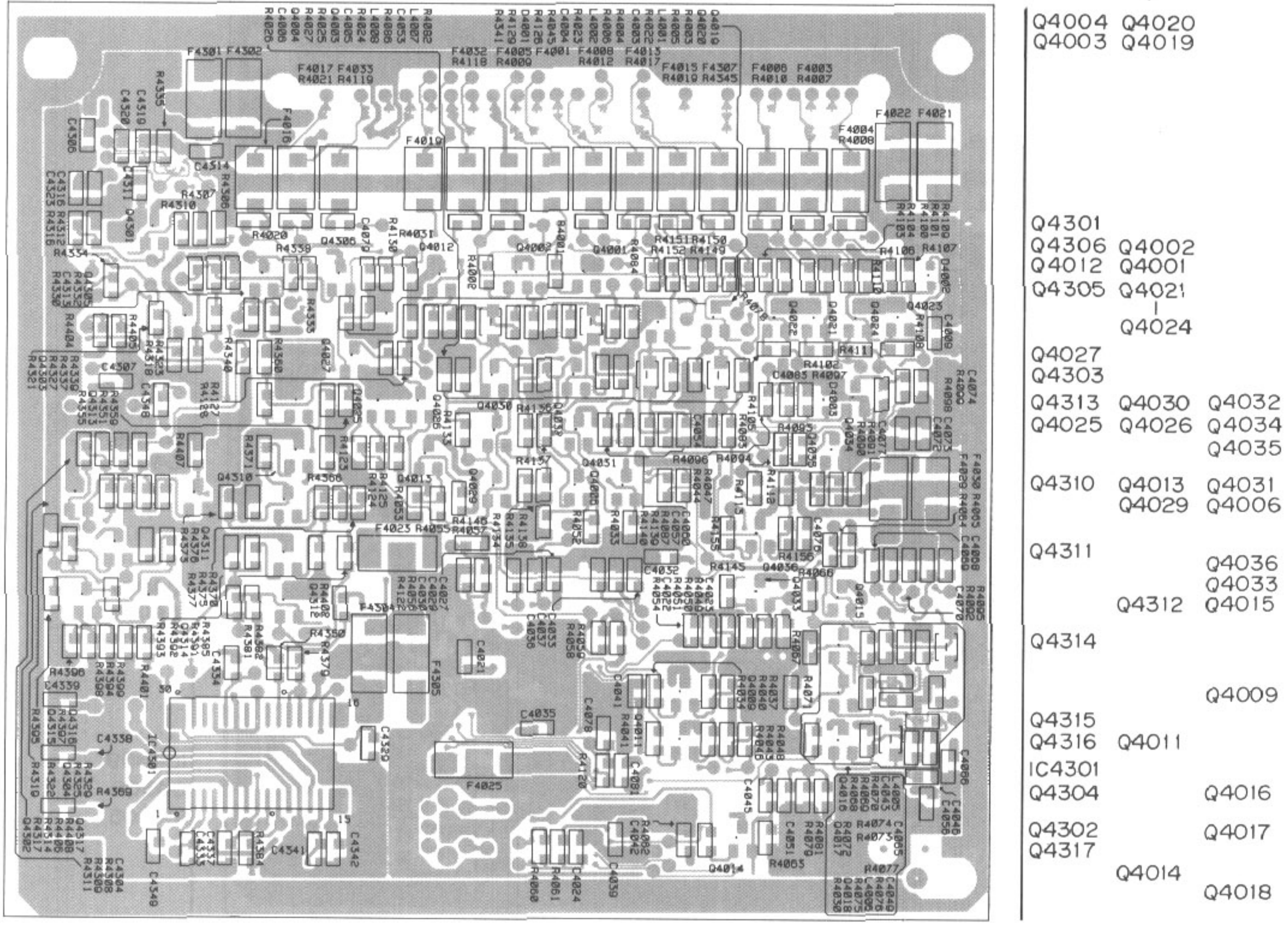
(ANP1826-A)

- This is a multi-layer PCB.

SIDE B

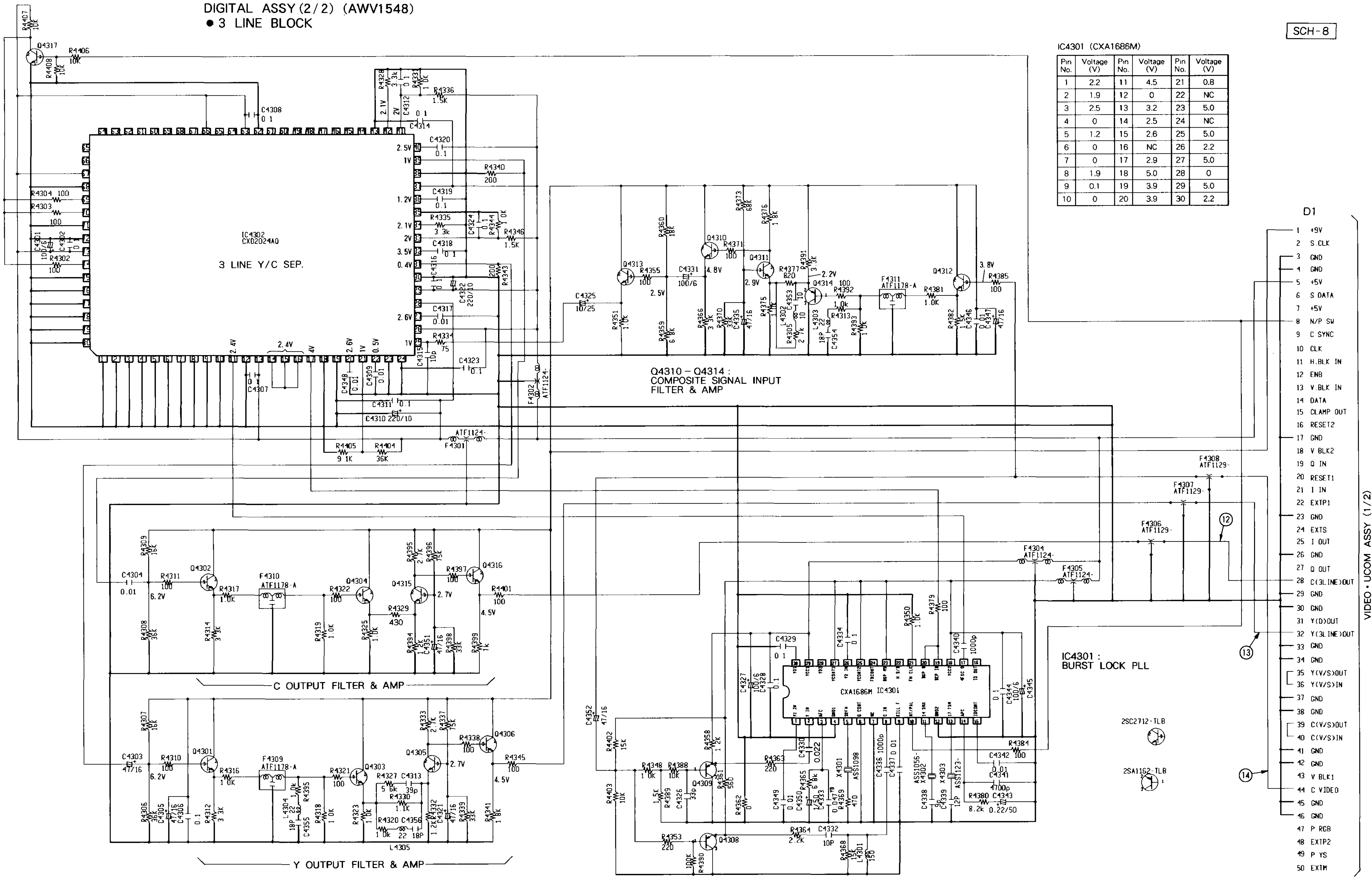
PCB – 4

DIGITAL ASSY


Q4004 Q4020
Q4003 Q4019
Q4301
Q4306 Q4002
Q4012 Q4001
Q4305 Q4021
Q4024
Q4027
Q4303
Q4313 Q4030 Q4032
Q4025 Q4026 Q4034
Q4035
Q4310 Q4013 Q4031
Q4029 Q4006
Q4311
Q4036
Q4033
Q4312 Q4015
Q4314
Q4009
Q4315
Q4316 Q4011
IC4301
Q4304 Q4016
Q4302 Q4017
Q4317
Q4014
Q4018

- This is a multi-layer PCB.

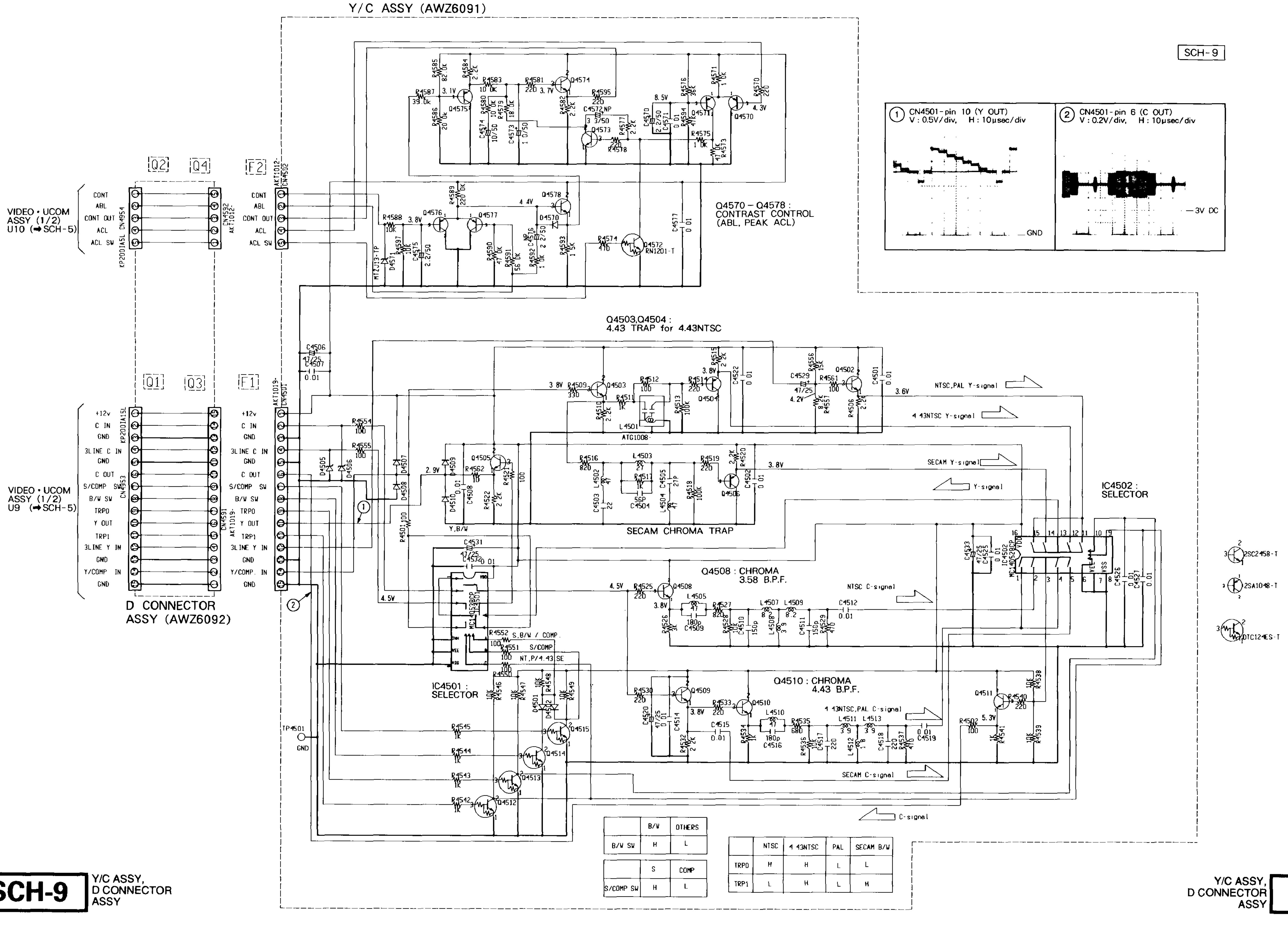
5.8 DIGITAL ASSY (2/2)


DIGITAL ASSY (2/2) (AWV1548)
● 3 LINE BLOCK
SCH-8
IC4302
CXD2024AQ
3 LINE Y/C SEP.
Q4317
R4406 10K
R4407 10K
R4408 10K
R4304 100
R4303 100
R4302 100
C4301 10/16
C4302 0.1
C4308 0.1
R4328 3.3k
R4331 10K
R4336 1.5K
C4312 0.1
C4314
C4320 0.1
R4340 200
C4319 0.1
R4335 3.3k
C4324 0.1
R4344 1.0K
R4346 1.5K
C4318 0.1
C4316 0.1
C4322 220/10
R4343 200
C4317 0.01
R4334 75
C4315 10p
C4323 0.1
C4307
C4348 0.01
C4309 0.01
C4311 0.1
C4310 220/10
R4405 9.1K
R4404 36K
F4301 ATF1124-
F4302 ATF1124-
C4325 10/25
Q4310
Q4311
Q4312
Q4313
Q4314
R4360 18K
R4373 68K
R4376 1.8K
R4371 100
R4355 100
C4331 100/6
R4377 820
R4391 3.3K
R4392 1.0k
R4313
R4351 1.0K
R4359 6.8K
R4366 3.3K
R4310
C4335 47/16
R4375 1.0K
L4302
C4353
R4305 2.7K
L4303 10
C4354 18P
R4393 1.0K
F4311 ATF1178-A
R4381 1.0K
R4385 100
R4382
C4346
C4347 47/16
Q4310 – Q4314 :
COMPOSITE SIGNAL INPUT
FILTER & AMP
C4304 0.01
R4309 15K
R4311 100
Q4302
R4317 1.0K
F4310 ATF1178-A
R4322 100
Q4304
Q4315
R4395 2.7K
R4396 75K
R4397 100
Q4316
R4401 100
R4329 430
R4308 36K
R4314 3.3K
R4319 1.0K
R4325 1.0K
R4394 3.3K
C4351 47/16
R4398 33K
R4399 1k
C OUTPUT FILTER & AMP
C4303 47/16
R4307 15K
R4310 100
Q4301
R4316 1.0K
F4309 ATF1178-A
R4321 100
Q4303
R4327 5.6k
C4313 39p
R4330 1.1K
Q4305
R4333 2.7K
R4337 75K
R4338 100
Q4306
R4345 100
R4306 36K
C4305 47/16
C4306 0.1
R4312 3.3K
L4304 22
C4355 18P
R4395
R4318 1.0K
R4323 1.0K
R4320 1.0k
C4356 22 18P
L4305
R4332 1.2K
C4321 47/16
R4339 33K
R4341 1.8K
Y OUTPUT FILTER & AMP
C4352 47/16
R4402 15K
R4403 10K
R4348 1.0k
R4388 10K
R4358 1.2K
Q4309
R4361 560
R4389 1.5K
C4326 33p
R4362 0
R4353 220
Q4308
R4390 100K
R4364 2.2K
C4332 10P
R4368 1.5K
L4301 150
C4329 0.1
C4327 10/16
C4328 0.1
C4334 0.1
R4350 1.0K
R4379 100
C4340 1000p
C4344 0.1
C4345 100/6
CXA1686M IC4301
C4330 0.022
R4363 220
C4349 0.01
C4350 150
R4365 6.8K
C4333 0.047
R4369 470
X4301 ASS1098
C4336 1000p
C4337 0.01
C4338 0.1
X4302 ASS1056-
C4339 9p
X4303 ASS1123-
C4342 0.01
C4341 4700p
R4384 100
R4380 8.2k
C4343 0.22/50
IC4301 :
BURST LOCK PLL
2SC2712-TLB
2SA1162-TLB
F4304 ATF1124-
F4305 ATF1124-
F4306 ATF1129-
F4307 ATF1129-
F4308 ATF1129-
⑫
⑬
⑭
D1
1 +9V
2 S.CLK
3 GND
4 GND
5 +5V
6 S DATA
7 +5V
8 N/P SW
9 C SYNC
10 CLK
11 H.BLK IN
12 ENB
13 V.BLK IN
14 DATA
15 CLAMP OUT
16 RESET2
17 GND
18 V BLK2
19 Q IN
20 RESET1
21 I IN
22 EXTP1
23 GND
24 EXTS
25 I OUT
26 GND
27 Q OUT
28 C(3LINE)OUT
29 GND
30 GND
31 Y(D)OUT
32 Y(3LINE)OUT
33 GND
34 GND
35 Y(V/S)OUT
36 Y(V/S)IN
37 GND
38 GND
39 C(V/S)OUT
40 C(V/S)IN
41 GND
42 GND
43 V BLK1
44 C VIDEO
45 GND
46 GND
47 P RGB
48 EXTP2
49 P YS
50 EXTM
VIDEO・UCOM ASSY (1/2)
U3 (➡SCH-5)

IC4301 (CXA1686M)

Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	2.2	11	4.5	21	0.8
2	1.9	12	0	22	NC
3	2.5	13	3.2	23	5.0
4	0	14	2.5	24	NC
5	1.2	15	2.6	25	5.0
6	0	16	NC	26	2.2
7	0	17	2.9	27	5.0
8	1.9	18	5.0	28	0
9	0.1	19	3.9	29	5.0
10	0	20	3.9	30	2.2

5.9 Y/C AND D CONNECTOR ASSEMBLIES


Y/C ASSY (AWZ6091)
SCH-9
① CN4501-pin 10 (Y OUT) V: 0.5V/div, H: 10μsec/div
GND
② CN4501-pin 6 (C OUT) V: 0.2V/div, H: 10μsec/div
−3V DC
VIDEO • UCOM ASSY (1/2) U10 (➡SCH-5)
VIDEO • UCOM ASSY (1/2) U9 (➡SCH-5)
D CONNECTOR ASSY (AWZ6092)
Q2
Q4
F2
Q1
Q3
F1
CONT
ABL
CONT OUT
ACL
ACL SW
+12v
C IN
GND
3LINE C IN
C OUT
S/COMP SW
B/W SW
TRP0
Y OUT
TRP1
3LINE Y IN
Y/COMP IN
KP200IA5L CN4954
KP200IA15L CN4953
AKT1012- CN4502
AKT1019- CN4501
Q4570 – Q4578 : CONTRAST CONTROL (ABL, PEAK ACL)
Q4503,Q4504 : 4.43 TRAP for 4.43NTSC
NTSC,PAL Y-signal
4.43NTSC Y-signal
SECAM Y-signal
Y-signal
SECAM CHROMA TRAP
IC4502 : SELECTOR
Q4508 : CHROMA 3.58 B.P.F.
NTSC C-signal
Q4510 : CHROMA 4.43 B.P.F.
4.43NTSC,PAL C-signal
SECAM C-signal
C-signal
IC4501 : SELECTOR
MC14053BCP
MC14052BCP
S,B/W / COMP
S/COMP
NT,P/4.43 SE
Y,B/W
TP4501
GND
2SC2458-T
2SA1048-T
DTC124ES-T

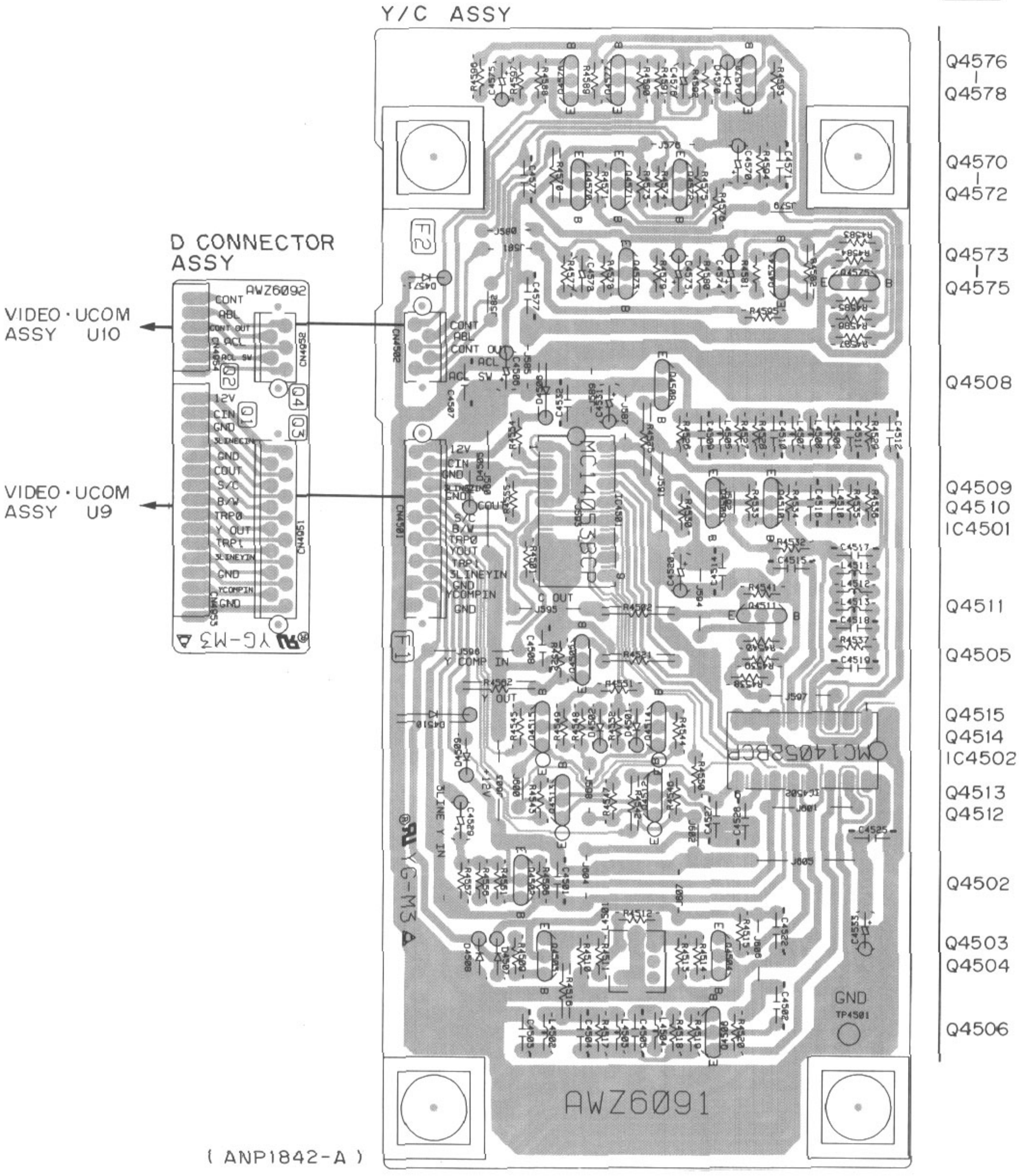
	B/W	OTHERS
B/W SW	H	L

	S	COMP
S/COMP SW	H	L

	NTSC	4 43NTSC	PAL	SECAM B/W
TRP0	H	H	L	L
TRP1	L	H	L	H

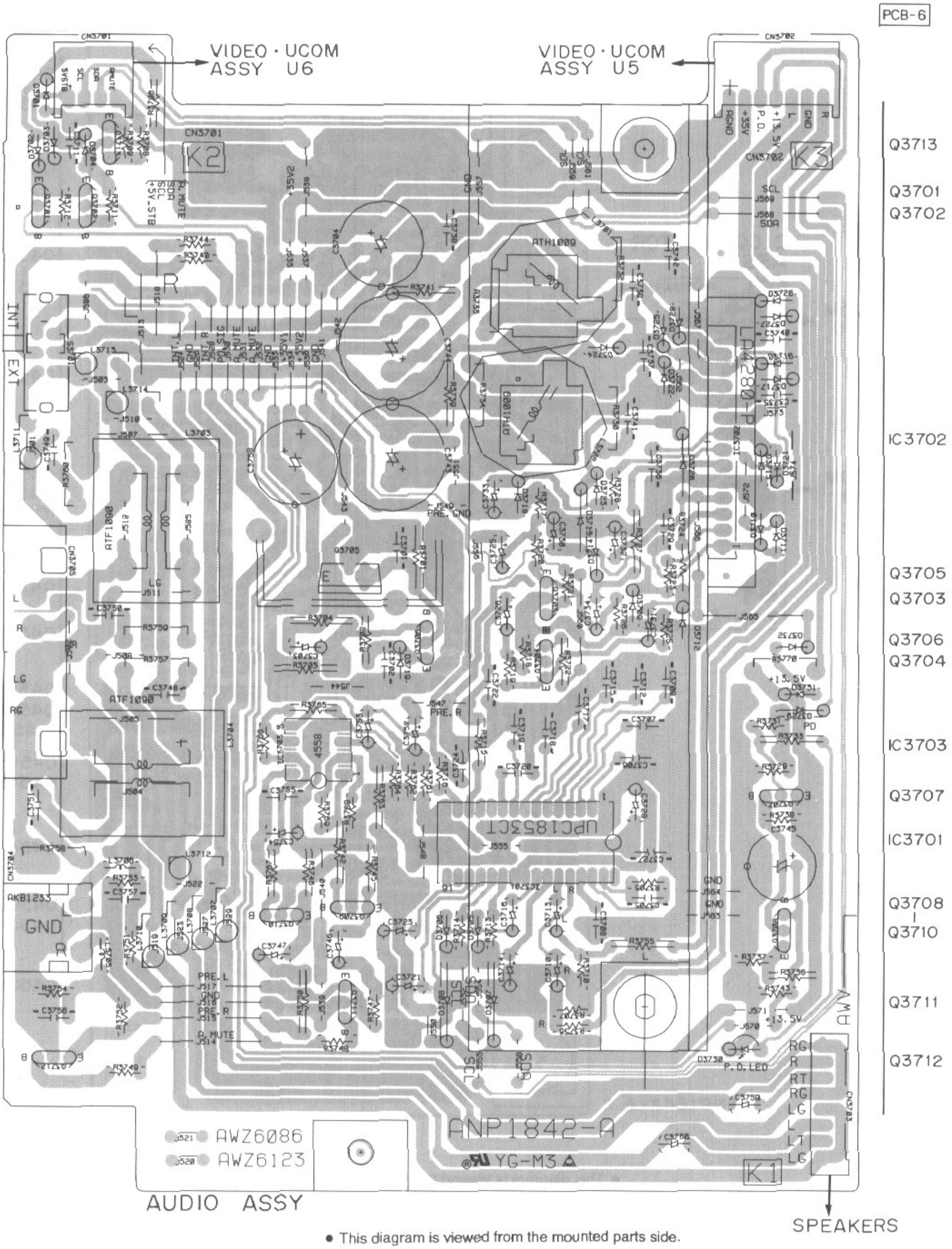
SCH-9 Y/C ASSY, D CONNECTOR ASSY

Y/C ASSY, D CONNECTOR ASSY **SCH-9**


PCB-5
Y/C ASSY
D CONNECTOR ASSY
AWZ6092
VIDEO·UCOM ASSY U10
VIDEO·UCOM ASSY U9
CONT
ABL
CONT OUT
ACL
ACL SW
12V
CIN
GND
3LINECIN
COUT
S/C
B/W
TRP0
Y OUT
TRP1
3LINEYIN
YCOMPIN
CN4052
CN4051
CN4053
CN4502
CN4501
YG-M3
F1
F2
MC14053BCP
IC4501
MC14052BCP
Y COMP IN
C OUT
Y OUT
3LINE Y IN
GND
TP4501
AWZ6091
(ANP1842-A)
Q4576 - Q4578
Q4570 - Q4572
Q4573 - Q4575
Q4508
Q4509
Q4510
IC4501
Q4511
Q4505
Q4515
Q4514
IC4502
Q4513
Q4512
Q4502
Q4503
Q4504
Q4506

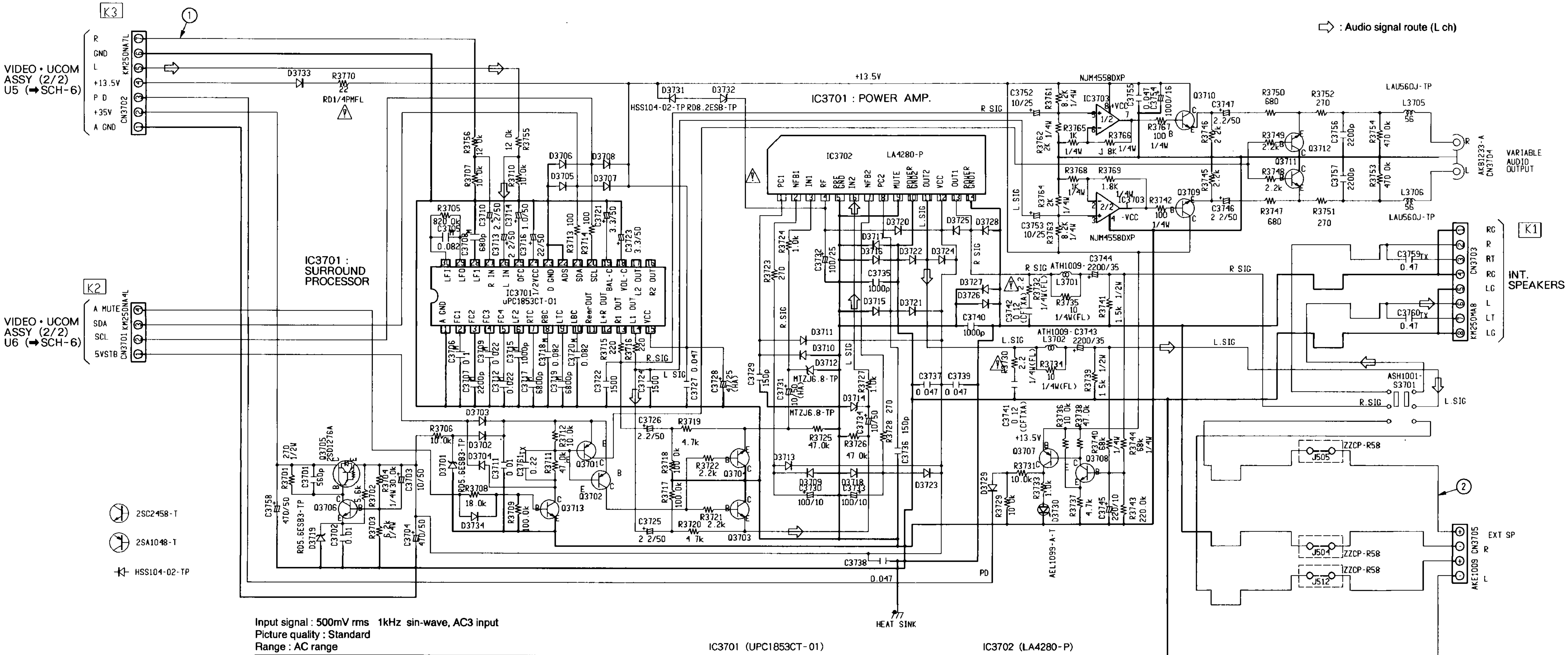
- This diagram is viewed from the mounted parts side.

5.10 AUDIO ASSY

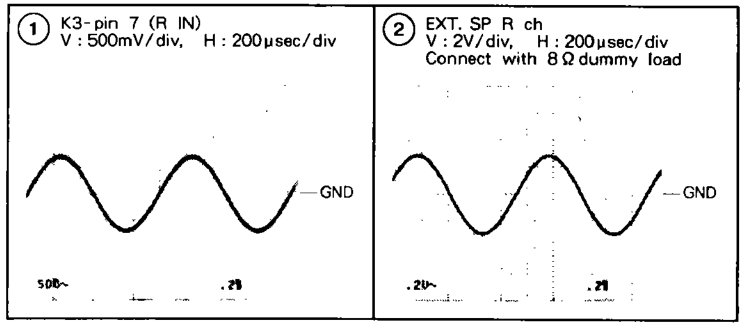

PCB-6
VIDEO · UCOM ASSY U6
VIDEO · UCOM ASSY U5
CN3701
CN3702
K2
K3
K1
ATH1009
ATH1009
ATF1090
ATF1090
uPC1853CT
4558
LA4280
INT
EXT
L
R
LG
RG
GND
AKB1233
PRE. L
PRE. R
P. MUTE
PRE. GND
P.D. LED
+13.5V
RG
R
RT
RG
LG
L
LT
LG
ANP1842-A
YG-M3
J521 AWZ6086
J520 AWZ6123
AUDIO ASSY
SPEAKERS
Q3713
Q3701
Q3702
IC3702
Q3705
Q3703
Q3706
Q3704
IC3703
Q3707
IC3701
Q3708
Q3710
Q3711
Q3712

• This diagram is viewed from the mounted parts side.

AUDIO ASSY (AWZ6086)


: Audio signal route (L ch)
K3
VIDEO • UCOM ASSY (2/2) U5 (➡SCH-6)
R
GND
L
+13.5V
P D
+35V
A GND
CN3702 KM250NA7L
K2
VIDEO • UCOM ASSY (2/2) U6 (➡SCH-6)
A MUTE
SDA
SCL
5VSTB
CN3701 KM250NA4L
IC3701 : SURROUND PROCESSOR
IC3701 uPC1853CT-01
IC3701 : POWER AMP.
IC3702 LA4280-P
NJM4558DXP
IC3703
+13.5V
R SIG
L SIG
LAU56OJ-TP
L3705
L3706
AKB1223-A CN3704
VARIABLE AUDIO OUTPUT
K1
CN3703 KM250MA8
RG
R
RT
RG
LG
L
LT
LG
INT. SPEAKERS
ASH1001-
S3701
EXT SP
R
L
AKE1009 CN3705
ZZCP-R58
J505
J504
J512
J525
HEAT SINK
PD
2SC2458-T
2SA1048-T
HSS104-02-TP
①
②

Input signal : 500mV rms 1kHz sin-wave, AC3 input
Picture quality : Standard
Range : AC range



① K3-pin 7 (R IN)
V : 500mV/div, H : 200μsec/div

② EXT. SP R ch
V : 2V/div, H : 200μsec/div
Connect with 8Ω dummy load

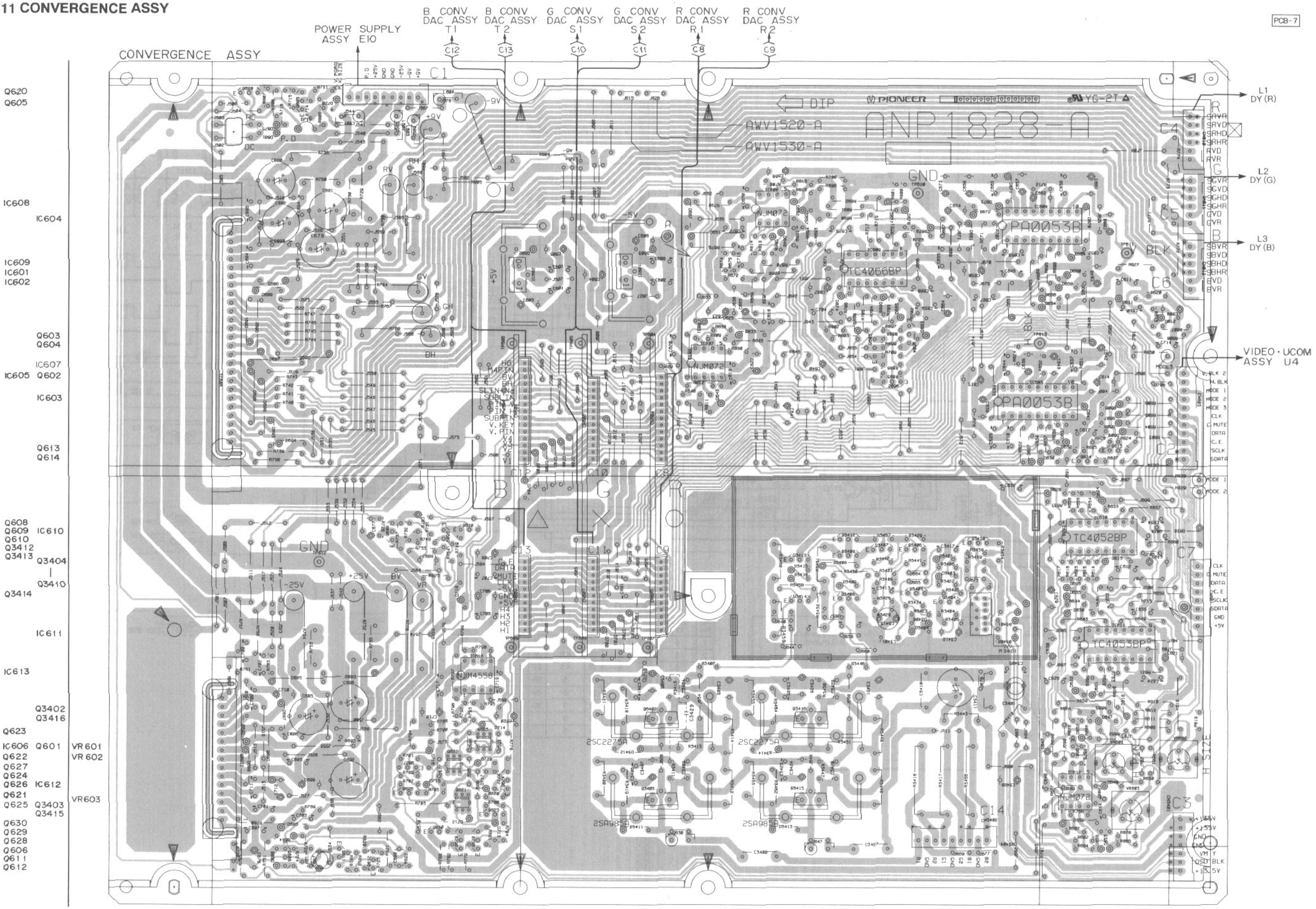
IC3701 (UPC1853CT-01)

Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0	9	6	17	6	25	6
2	6	10	6	18	4.5	26	6
3	6	11	6	19	4.5	27	6
4	6	12	6	20	5	28	6
5	6	13	6	21	5	29	6
6	6	14	6	22	0	30	6
7	6	15	11.9	23	0		
8	6	16	6	24	6		

IC3702 (LA4280-P)

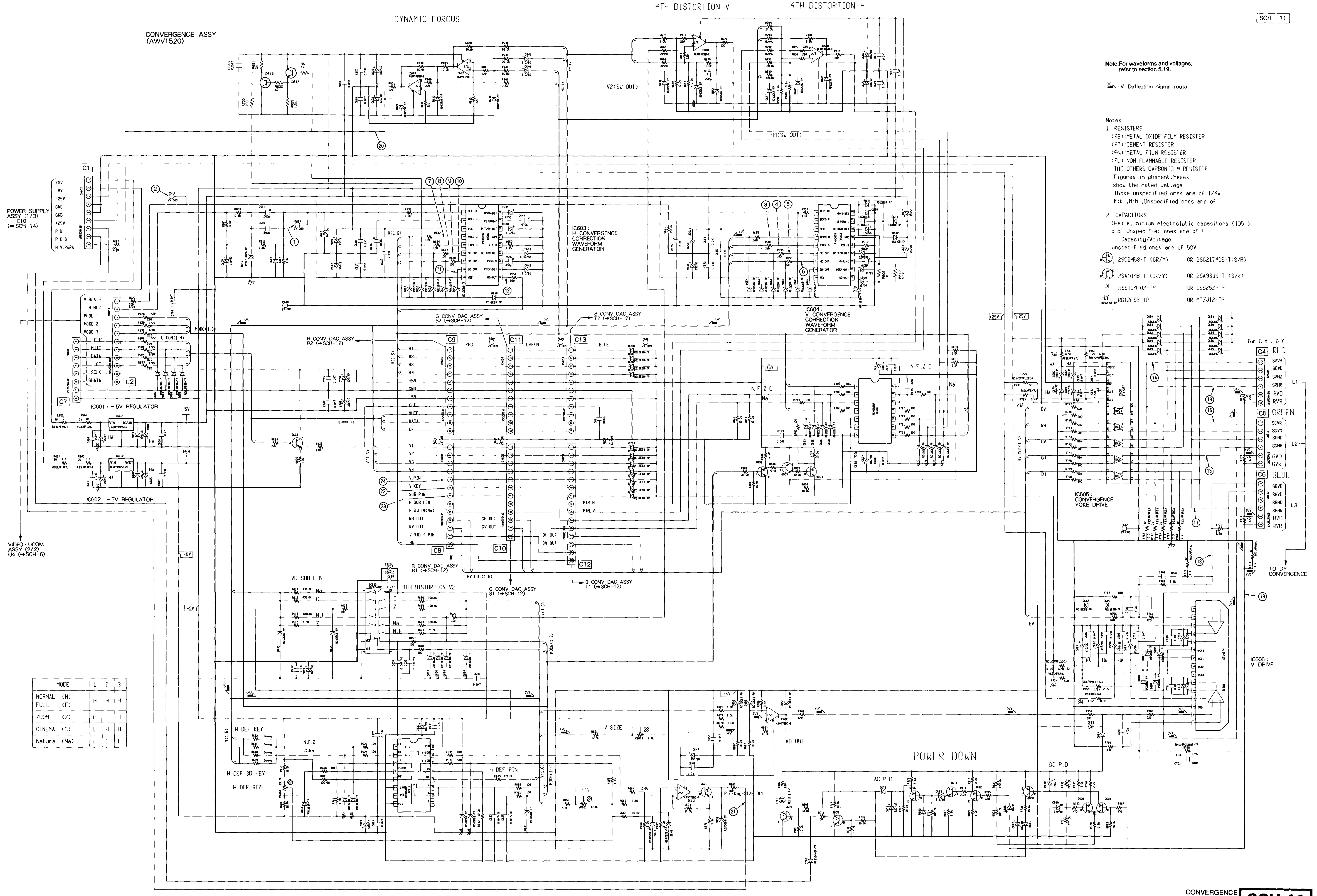
Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0.8	8	0.8
2	1.2	9	0
3	0.7	10	0
4	19	11	19.6
5	0	12	38.6
6	0.7	13	18.9
7	1.1	14	0

5.11 CONVERGENCE ASSY


PCB-7
CONVERGENCE ASSY
POWER SUPPLY ASSY E10
B CONV DAC ASSY T1
B CONV DAC ASSY T2
G CONV DAC ASSY S1
G CONV DAC ASSY S2
R CONV DAC ASSY R1
R CONV DAC ASSY R2
C12
C13
C10
C11
C8
C9
C1
L1 DY (R)
L2 DY (G)
L3 DY (B)
VIDEO・UCOM ASSY U4
ANP1828-A
AWV1520-A
AWV1530-A
DIP
PIONEER
YG-2T
C4
C5
C6
C7
C2
C3
C14
GND
BLK
PA0053B
TC4066BP
NJM072
TC4052BP
TC4053BP
NJM4558
2SC2275A
2SA985A
H SIZE
Q620
Q605
IC608
IC604
IC609
IC601
IC602
Q603
Q604
IC607
IC605
Q602
IC603
Q613
Q614
Q608
Q609
Q610
Q3412
Q3413
IC610
Q3404
Q3410
Q3414
IC611
IC613
Q3402
Q3416
Q623
IC606
Q601
VR601
VR602
Q622
Q627
Q624
Q626
IC612
Q621
Q625
Q3403
Q3415
VR603
Q630
Q629
Q628
Q606
Q611
Q612

• This diagram is viewed from the mounted parts side.

SCH – 11


CONVERGENCE ASSY
(AWV1520)
DYNAMIC FORCUS
4TH DISTORTION V
4TH DISTORTION H
V2(SW OUT)
H4(SW OUT)
POWER SUPPLY ASSY (1/3)
E10
(→SCH-14)
C1
+9V
-9V
-25V
GND
GND
+25V
P.D
P.K.S
H.V.PARA
IC603 :
H. CONVERGENCE
CORRECTION
WAVEFORM
GENERATOR
IC604 :
V. CONVERGENCE
CORRECTION
WAVEFORM
GENERATOR
V BLK 2
H BLK
MODE 1
MODE 2
MODE 3
CLK
MUTE
DATA
CE
SCLK
SDATA
C2
C7
U-COM(1:4)
IC601 : -5V REGULATOR
IC602 : +5V REGULATOR
G CONV DAC ASSY
S2 (→SCH-12)
B CONV DAC ASSY
T2 (→SCH-12)
R CONV DAC ASSY
R2 (→SCH-12)
C9
RED
C11
GREEN
C13
BLUE
H1
H2
H3
H4
+5V
GND
-5V
CLK
MUTE
DATA
CE
V1
V2
V3
V4
V.PIN
V.KEY
SUB PIN
H.SUB LIN
H.S.LIN(Na)
RH OUT
RV OUT
V.MID 4 PIN
H6
GH OUT
GV OUT
BH OUT
BV OUT
PIN H
PIN V
C8
C10
C12
R CONV DAC ASSY
R1 (→SCH-12)
G CONV DAC ASSY
S1 (→SCH-12)
B CONV DAC ASSY
T1 (→SCH-12)
HV OUT(1:6)
VIDEO・UCOM
ASSY (2/2)
U4 (→SCH-6)
VD SUB LIN
4TH DISTORTION V2
N.F.Z.C
Na
+25V
-25V
for C Y . D Y
C4 RED
SRVR
SRVD
SRHD
SRHR
RVD
RVR
L1
C5 GREEN
SGVR
SGVD
SGHD
SGHR
GVD
GVR
L2
C6 BLUE
SBVR
SBVD
SBHD
SBHR
BVD
BVR
L3
IC605 :
CONVERGENCE
YOKE DRIVE
TO DY
CONVERGENCE
IC606 :
V. DRIVE
RV
RH
GV
GH
BH
BV
H DEF KEY
H DEF 3D KEY
H DEF SIZE
H DEF PIN
N.F.Z
C.Na
V.SIZE
VD OUT
H.PIN
Pin-Key-SIZE OUT
POWER DOWN
AC P.D
DC P.D
MODE(1:3)
V(1:6)
H(1:6)
+5V
-5V
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫
⑬
⑭
⑮
⑯
⑰
⑱
⑲
⑳
㉑
㉒
㉓
㉔
A
B
C
D
E
F
1
2
3
4
5
6
7
8
9

Note:For waveforms and voltages,
refer to section 5.19.

(V) : V. Deflection signal route

Notes

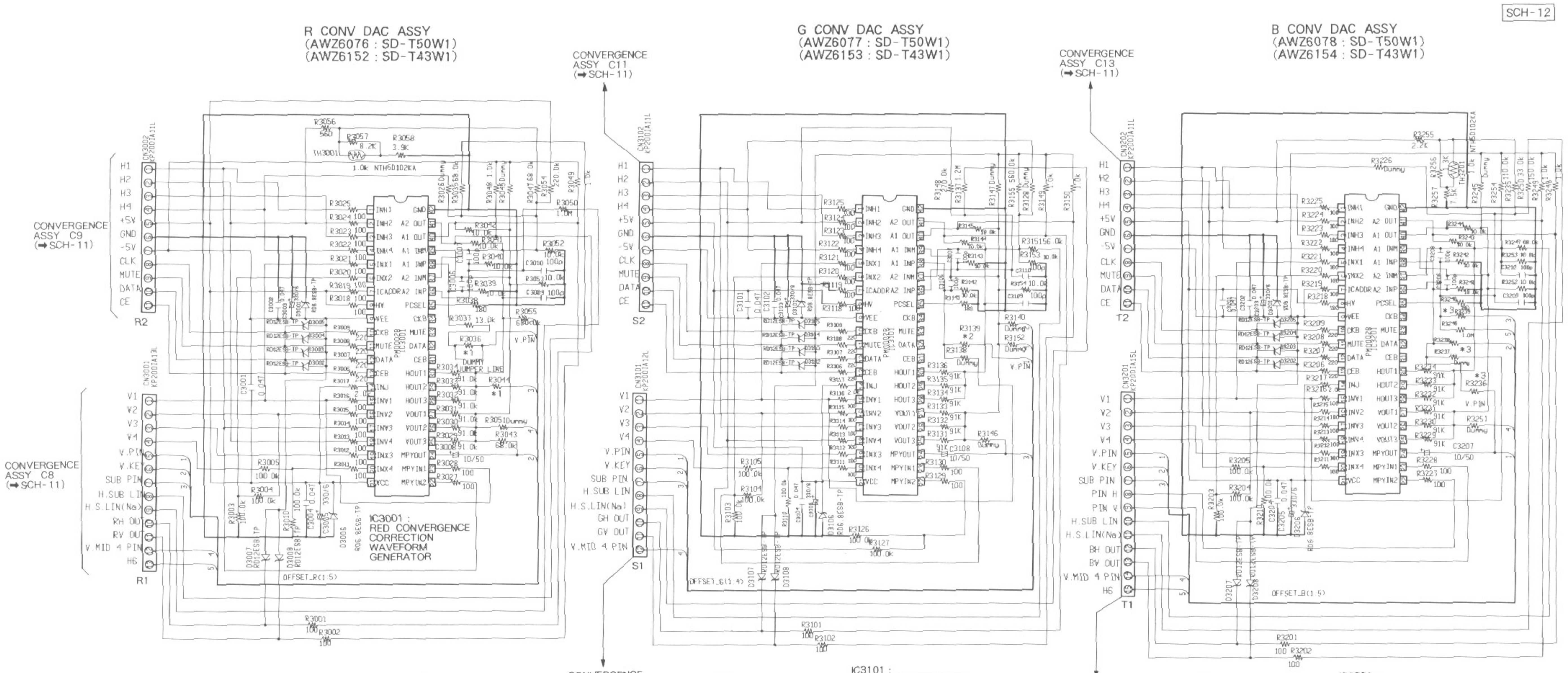
1 RESISTERS
(RS):METAL OXIDE FILM RESISTER
(RT):CEMENT RESISTER
(RN):METAL FILM RESISTER
(FL).NON FLAMMABLE RESISTER
THE OTHERS CARBONFILM RESISTER
Figures in pharentheses
show the rated wattage.
Those unspecified ones are of 1/4W.
K:K ,M:M ,Unspecified ones are of

2. CAPACITORS
(HA) Aluminium electrolytic capasitors (105)
p.pF,Unspecified ones are of F
Capacity/Voltage
Unspecified ones are of 50V

B C E	2SC2458-T (GR/Y)	OR 2SC2174OS-T(S/R)
B E C	2SA1048-T (GR/Y)	OR 2SA933S-T (S/R)
⊣▷⊢	HSS104-02-TP	OR 1SS252-TP
RD12ESB-TP	RD12ESB-TP	OR MTZJ12-TP

MODE	1	2	3
NORMAL (N) FULL (F)	H	H	H
ZOOM (Z)	H	L	H
CINEMA (C)	L	H	H
Natural (Na)	L	L	L

5.12 R CONV DAC, G CONV DAC AND B CONV DAC ASSEMBLIES


SCH-12
R CONV DAC ASSY
(AWZ6076 : SD-T50W1)
(AWZ6152 : SD-T43W1)
G CONV DAC ASSY
(AWZ6077 : SD-T50W1)
(AWZ6153 : SD-T43W1)
B CONV DAC ASSY
(AWZ6078 : SD-T50W1)
(AWZ6154 : SD-T43W1)
CONVERGENCE ASSY C9 (➡SCH-11)
CONVERGENCE ASSY C8 (➡SCH-11)
CONVERGENCE ASSY C11 (➡SCH-11)
CONVERGENCE ASSY C13 (➡SCH-11)
CONVERGENCE ASSY C10 (➡SCH-11)
CONVERGENCE ASSY C12 (➡SCH-11)
H1
H2
H3
H4
+5V
GND
-5V
CLK
MUTE
DATA
CE
R2
S2
T2
V1
V2
V3
V4
V.PIN
V.KEY
SUB PIN
H.SUB LIN
H.S.LIN(No)
RH OUT
RV OUT
GH OUT
GV OUT
BH OUT
BV OUT
V.MID 4 PIN
H6
R1
S1
T1
OFFSET_R(1.5)
OFFSET_G(1.4)
OFFSET_B(1.5)
IC3001 : RED CONVERGENCE CORRECTION WAVEFORM GENERATOR
IC3101 : GREEN CONVERGENCE CORRECTION WAVEFORM GENERATOR
IC3201 : BLUE CONVERGENCE CORRECTION WAVEFORM GENERATOR
R3001
R3002
R3101
100
R3102
100
R3201
100
R3202
100

*1

	AWZ6076	AWZ6152
R3036	J671	2k
R3044	130k	150k

*2

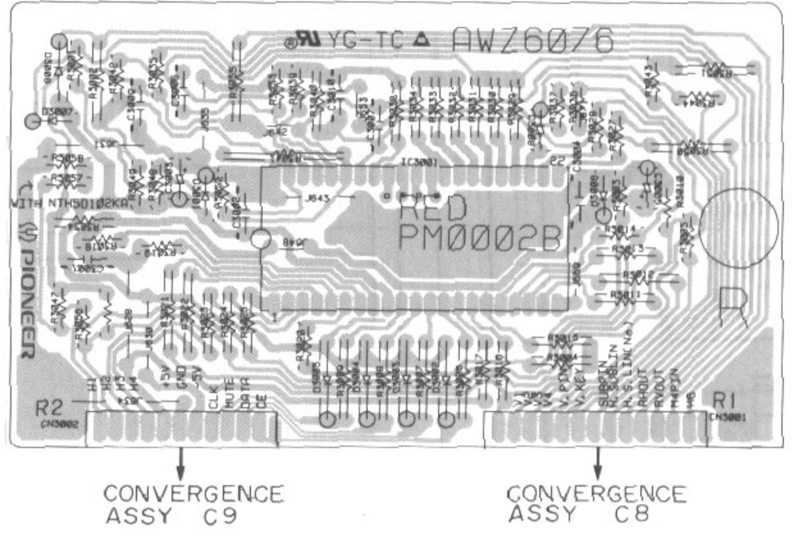
	AWZ6077	AWZ6153
R3139	13k	15k

*3

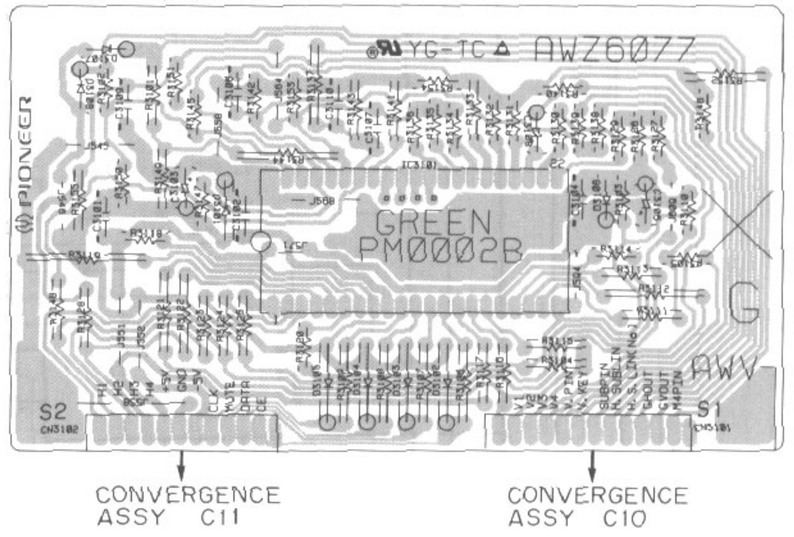
	AWZ6078	AWZ6154
R3236	13k	15k
R3238	100k	68k
R3239	180k	150k

R CONV DAC ASSY

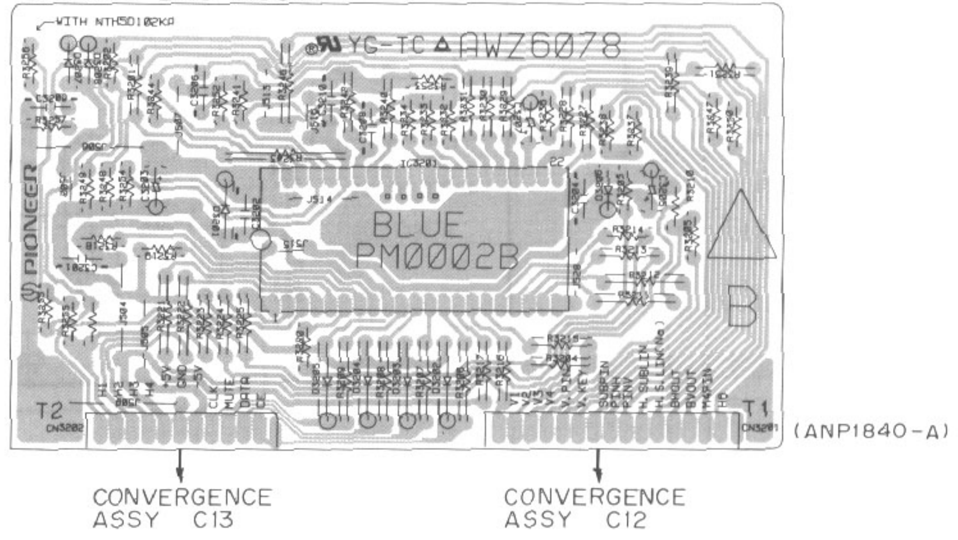
PCB-8


AWZ6076
YG-TC
RED
PM0002B
R
WITH NTH5D102KA
PIONEER
R2
R1
CONVERGENCE ASSY C9
CONVERGENCE ASSY C8

G CONV DAC ASSY

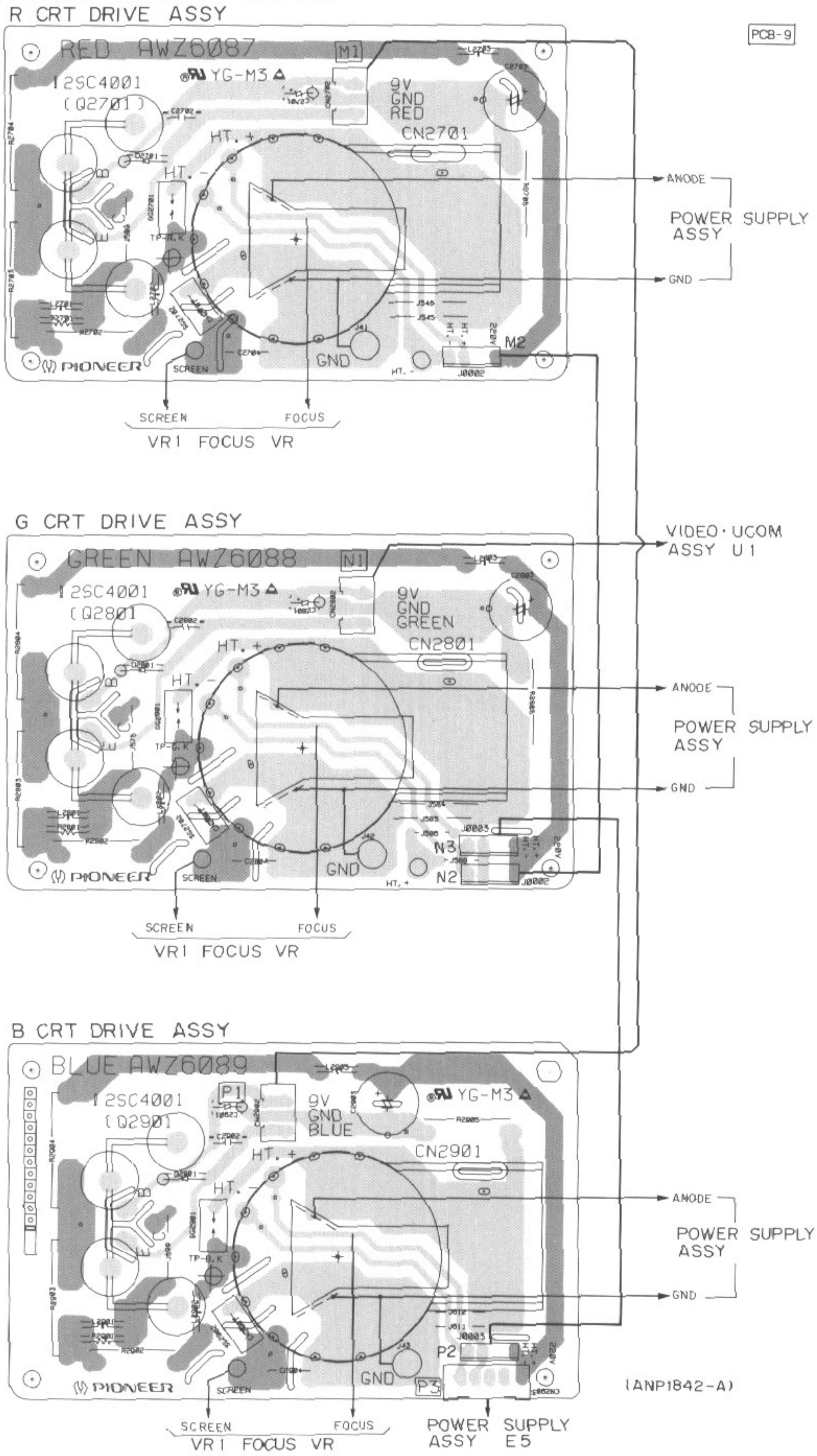

AWZ6077
YG-TC
GREEN
PM0002B
G
PIONEER
S2
S1
CONVERGENCE ASSY C11
CONVERGENCE ASSY C10

B CONV DAC ASSY


WITH NTH5D102KA
AWZ6078
YG-TC
BLUE
PM0002B
B
PIONEER
T2
T1
(ANP1840-A)
CONVERGENCE ASSY C13
CONVERGENCE ASSY C12

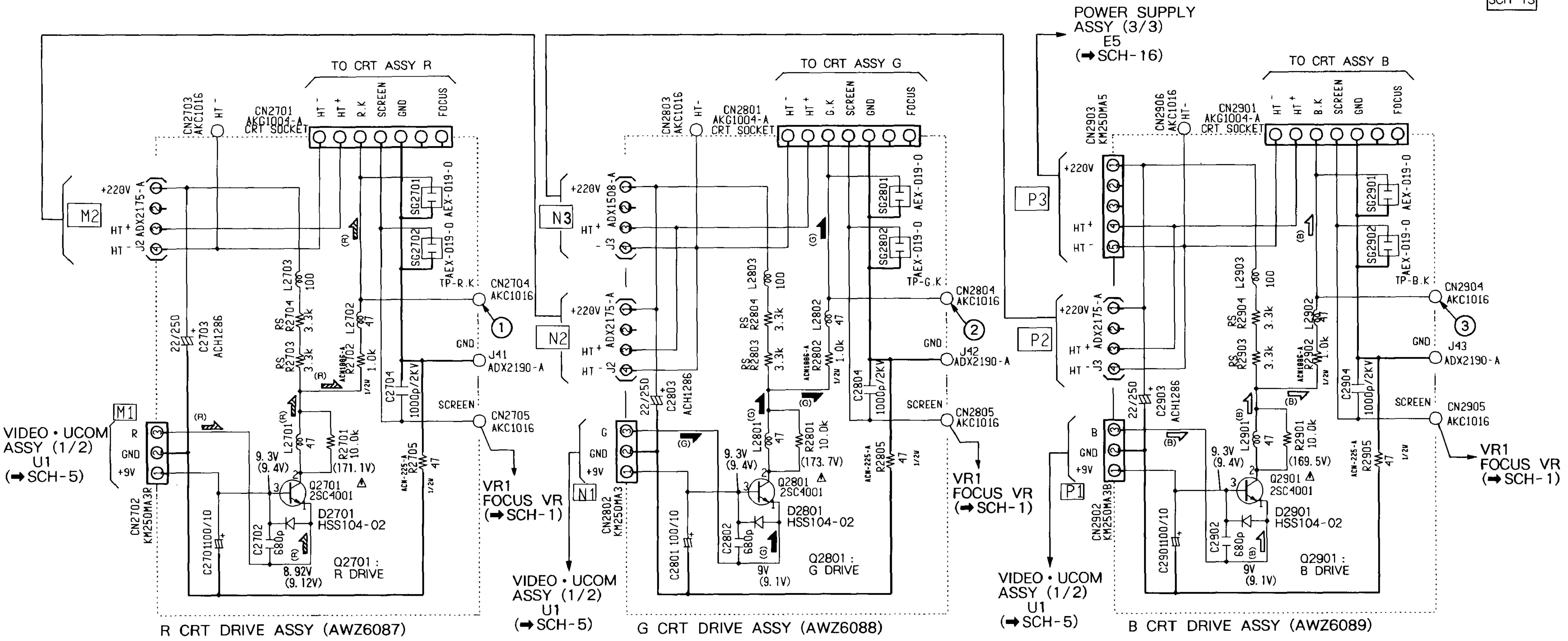
- This diagram is viewed from the mounted parts side.

5.13 R, G AND B CRT DRIVE ASSEMBLIES

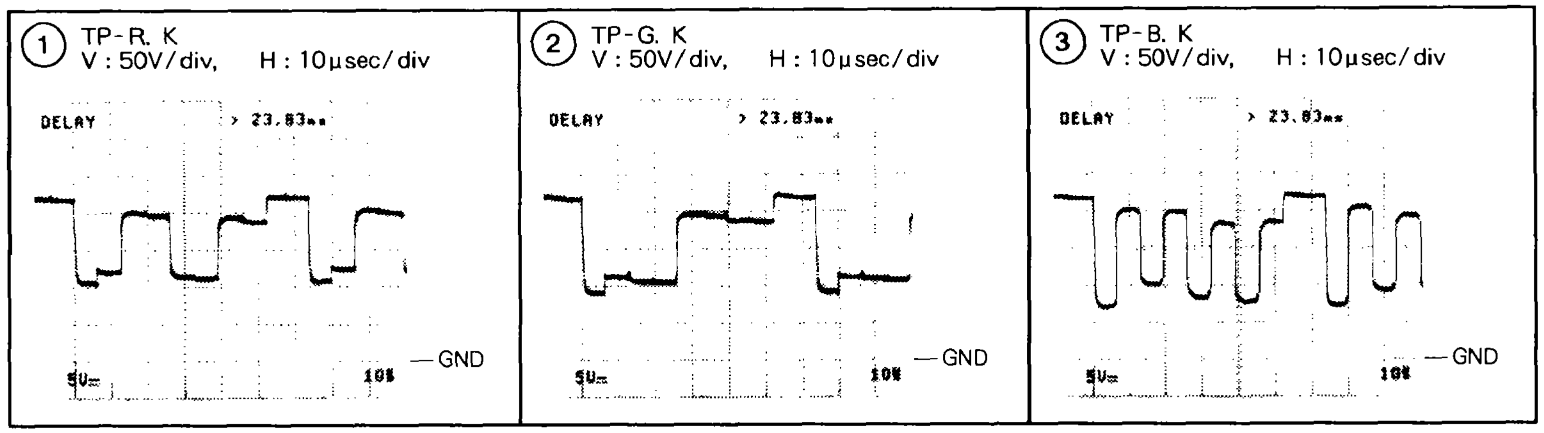

R CRT DRIVE ASSY
PCB-9
RED AWZ6087
M1
2SC4001
(Q2701)
YG-M3
9V
GND
RED
CN2701
HT. +
HT. -
TP-R.K
GND
SCREEN
M2
J0002
PIONEER
ANODE
POWER SUPPLY ASSY
GND
SCREEN
FOCUS
VR1 FOCUS VR
G CRT DRIVE ASSY
GREEN AWZ6088
N1
2SC4001
(Q2801)
YG-M3
9V
GND
GREEN
CN2801
HT. +
HT. -
TP-G.K
GND
SCREEN
N3
N2
J0003
J0002
PIONEER
VIDEO·UCOM ASSY U1
ANODE
POWER SUPPLY ASSY
GND
SCREEN
FOCUS
VR1 FOCUS VR
B CRT DRIVE ASSY
BLUE AWZ6089
P1
2SC4001
(Q2901)
YG-M3
9V
GND
BLUE
CN2901
HT. +
HT. -
TP-B.K
GND
SCREEN
P2
P3
J0003
PIONEER
ANODE
POWER SUPPLY ASSY
GND
(ANP1842-A)
SCREEN
FOCUS
VR1 FOCUS VR
POWER SUPPLY ASSY E5

▨ mark shows a high voltage generation point (excepting the charged section).

• This diagram is viewed from the mounted parts side.


POWER SUPPLY
ASSY (3/3)
E5
(➡SCH-16)
TO CRT ASSY R
TO CRT ASSY G
TO CRT ASSY B
CN2703 AKC1016
CN2701 AKG1004-A CRT SOCKET
HT⁻
HT⁺
R.K
G.K
B.K
SCREEN
GND
FOCUS
SG2701
SG2702
AEX-019-0
+220V
HT⁺
HT⁻
J2 ADX2175-A
M2
M1
N1
N2
N3
P1
P2
P3
VIDEO • UCOM
ASSY (1/2)
U1
(➡SCH-5)
R
G
B
GND
+9V
CN2702 KM250MA3R
22/250
C2703 ACH1286
RS R2704 3.3k
RS R2703 3.3k
L2703 100
L2702 47
R2702 1.0k
L2701 47
R2701 10.0k
(171.1V)
9.3V
(9.4V)
Q2701 2SC4001
D2701 HSS104-02
C2702 680p
C2701 100/10
8.92V
(9.12V)
Q2701 :
R DRIVE
C2704 1000p/2KV
R2705 47
TP-R.K
CN2704 AKC1016
GND
J41 ADX2190-A
SCREEN
CN2705 AKC1016
VR1
FOCUS VR
(➡SCH-1)
R CRT DRIVE ASSY (AWZ6087)
CN2803 AKC1016
CN2801 AKG1004-A CRT SOCKET
SG2801
SG2802
J3 ADX1508-A
CN2802 KM250MA3
C2803 ACH1286
RS R2804 3.3k
RS R2803 3.3k
L2803 100
L2802 47
R2802 1.0k
L2801 47
R2801 10.0k
(173.7V)
9.3V
(9.4V)
Q2801 2SC4001
D2801 HSS104-02
C2802 680p
C2801 100/10
9V
(9.1V)
Q2801 :
G DRIVE
C2804 1000p/2KV
R2805 47
TP-G.K
CN2804 AKC1016
J42 ADX2190-A
CN2805 AKC1016
G CRT DRIVE ASSY (AWZ6088)
CN2903 KM250MA5
CN2906 AKC1016
CN2901 AKG1004-A CRT SOCKET
SG2901
SG2902
J3 ADX2175-A
CN2902 KM250MA3B
C2903 ACH1286
RS R2904 3.3k
RS R2903 3.3k
L2903 100
L2902 47
R2902 1.0k
L2901 47
R2901 10.0k
(169.5V)
9.3V
(9.4V)
Q2901 2SC4001
D2901 HSS104-02
C2902 680p
C2901 100/10
9V
(9.1V)
Q2901 :
B DRIVE
C2904 1000p/2KV
R2905 47
TP-B.K
CN2904 AKC1016
J43 ADX2190-A
CN2905 AKC1016
B CRT DRIVE ASSY (AWZ6089)
ACN-225-A
ACN1886-A
1/2W
①
②
③

Input signal : PAL color-bar signal



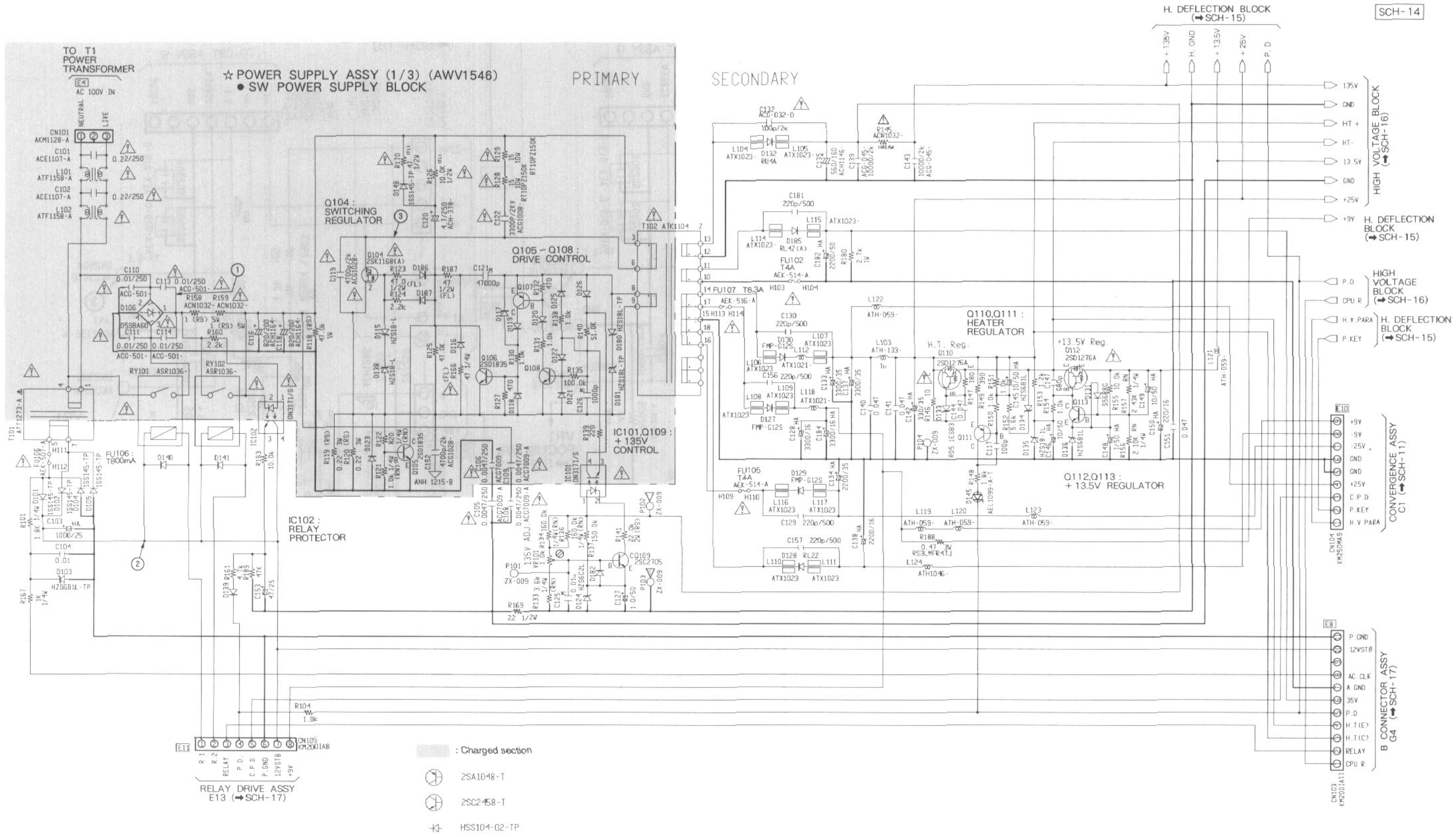
(R) ▨ : R. signal route

(G) ■ : G. signal route

(B) ▱ : B. signal route

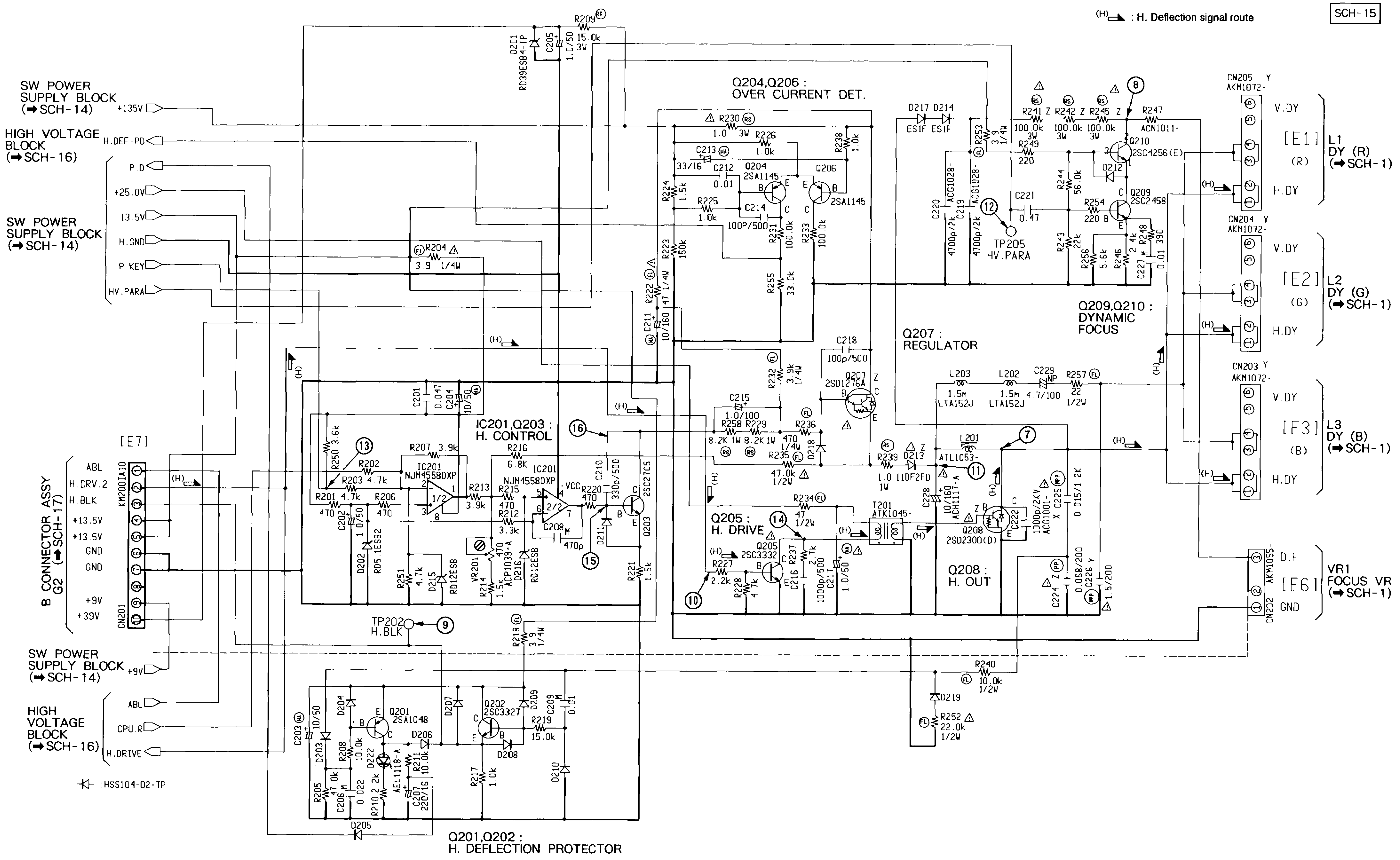
(V) : DC + AC range

5.14 POWER SUPPLY ASSY (1/3)


SCH-14
H. DEFLECTION BLOCK (➡SCH-15)
+135V
H. GND
+13.5V
+25V
P.D
TO T1 POWER TRANSFORMER
AC 100V IN
NEUTRAL
LIVE
☆POWER SUPPLY ASSY (1/3) (AWV1546)
● SW POWER SUPPLY BLOCK
PRIMARY
SECONDARY
CN101 AKM1128-A
C101 ACE1107-A
L101 ATF1158-A
C102 ACE1107-A
L102 ATF1158-A
Q104 : SWITCHING REGULATOR
Q105 - Q108 : DRIVE CONTROL
T102 ATK1104
RY101 ASR1036-
RY102 ASR1036-
D106 D5SBA60
IC102 : RELAY PROTECTOR
IC101,Q109 : +135V CONTROL
FU106 T800mA
FU107 T6.3A
FU102 T4A
FU105 T4A
Q110,Q111 : HEATER REGULATOR
H.T. Reg.
+13.5V Reg.
Q112,Q113 : +13.5V REGULATOR
135V
GND
HT+
HT-
13.5V
GND
+25V
+9V
HIGH VOLTAGE BLOCK (⬆SCH-16)
H. DEFLECTION BLOCK (➡SCH-15)
P.D
CPU R
HIGH VOLTAGE BLOCK (➡SCH-16)
H.V.PARA
P.KEY
H. DEFLECTION BLOCK (➡SCH-15)
E10
+9V
-9V
-25V
GND
GND
+25V
C.P.D
P.KEY
H.V.PARA
CONVERGENCE ASSY C1 (⬆SCH-11)
CN104 KM250MA9
E8
P.GND
12VSTB
AC CLK
A.GND
35V
P.D
H.T(E)
H.T(C)
RELAY
CPU R
B CONNECTOR ASSY G4 (⬆SCH-17)
CN103 KM200IA11
E11
CN105 KM200IA8
R 1
R 2
RELAY
P.D
C.P.D
P.GND
12VSTB
+9V
RELAY DRIVE ASSY E13 (➡SCH-17)
R104 1.0k
: Charged section
2SA1048-T
2SC2458-T
HSS104-02-TP

5.15 POWER SUPPLY ASSY (2/3)

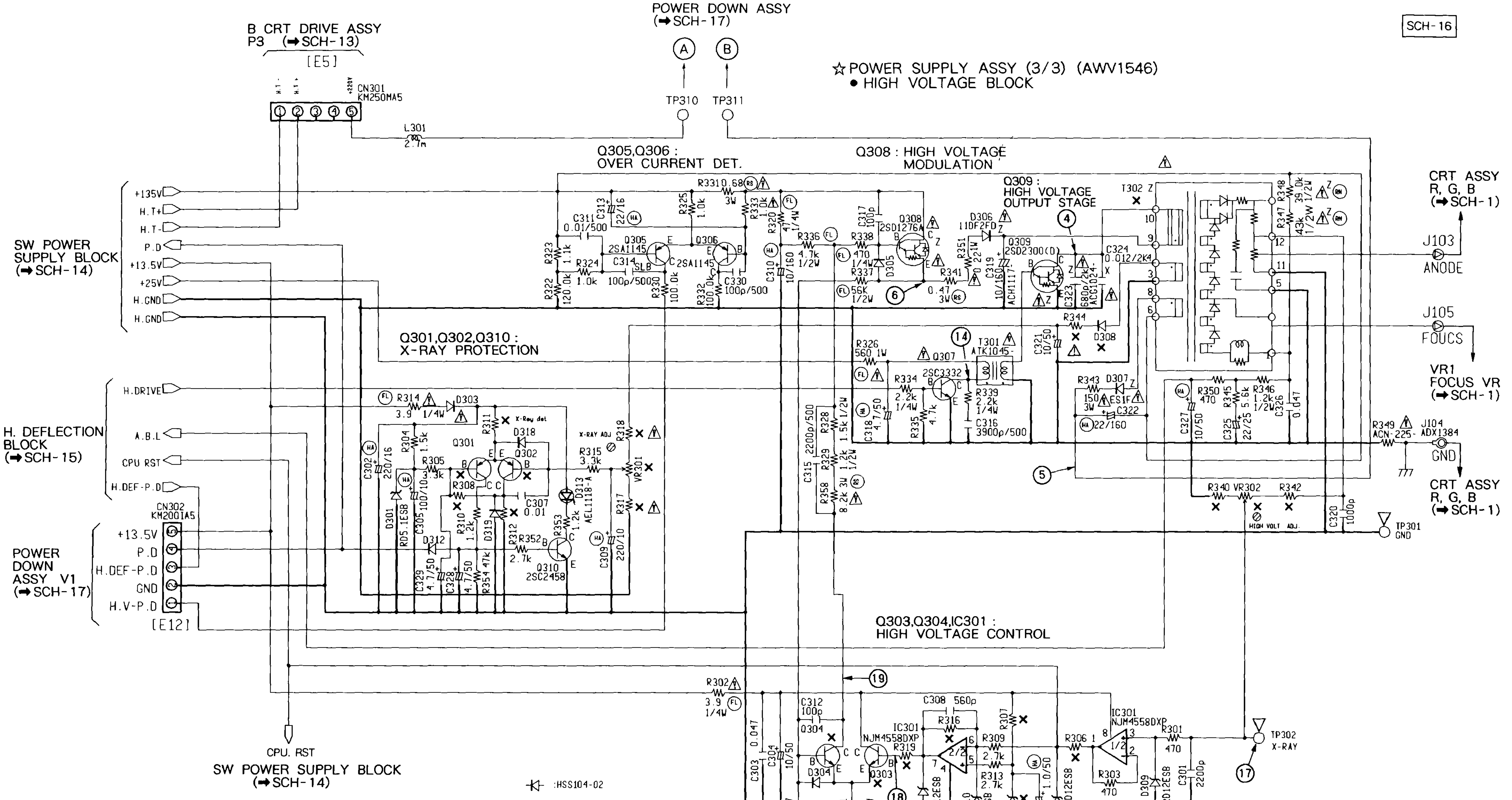
☆POWER SUPPLY ASSY (2/3) (AWV1546)
• H. DEFLECTION BLOCK

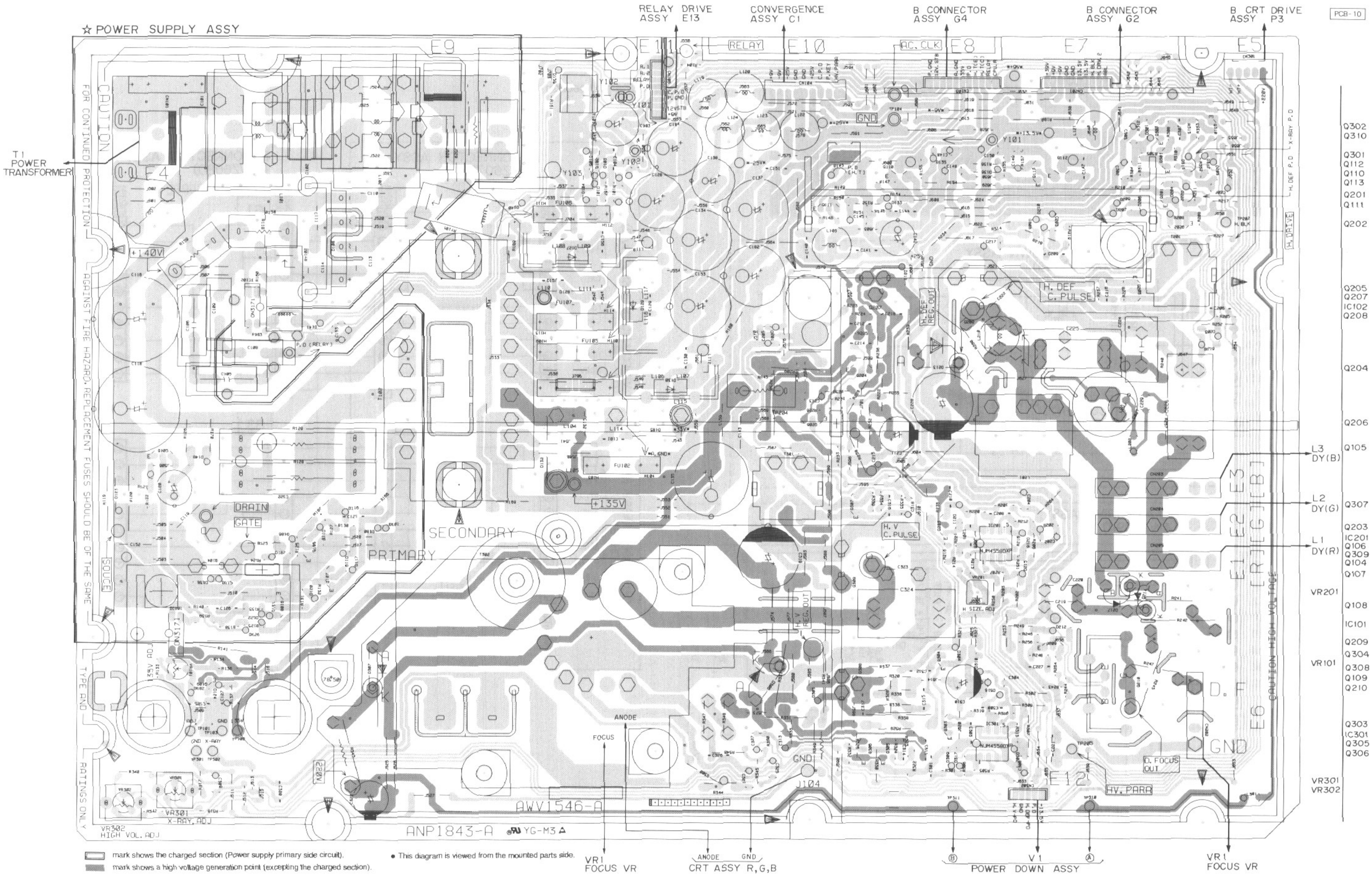

(H) : H. Deflection signal route
SCH-15
SW POWER SUPPLY BLOCK (→SCH-14)
+135V
HIGH VOLTAGE BLOCK (→SCH-16)
H.DEF-PD
P.D
+25.0V
13.5V
H.GND
P.KEY
HV.PARA
SW POWER SUPPLY BLOCK (→SCH-14)
[E7]
ABL
H.DRV.2
H.BLK
+13.5V
+13.5V
GND
GND
+9V
+39V
CN201 KM200IA10
B CONNECTOR ASSY G2 (→SCH-17)
SW POWER SUPPLY BLOCK (→SCH-14)
+9V
HIGH VOLTAGE BLOCK (→SCH-16)
ABL
CPU.R
H.DRIVE
:HSS104-02-TP
Q204,Q206 : OVER CURRENT DET.
IC201,Q203 : H. CONTROL
IC201 NJM4558DXP
Q205 : H. DRIVE
Q207 : REGULATOR
Q208 : H. OUT
Q209,Q210 : DYNAMIC FOCUS
Q201,Q202 : H. DEFLECTION PROTECTOR
TP202 H.BLK
TP205 HV.PARA
T201 ATK1045-
L201 ATL1053-
L203 1.5m LTA152J
L202 1.5m LTA152J
Q204 2SA1145
Q206 2SA1145
Q207 2SD1276A
Q205 2SC3332
Q208 2SD2300(D)
Q209 2SC2458
Q210 2SC4256(E)
Q201 2SA1048
Q202 2SC3327
Q203 2SC2705
D201 RD39ESB4-TP
D217 D214 ES1F ES1F
D213 11DF2FD
D202 RD5.1ESB2
D215 RD12ESB
D216 RD12ESB
D222 AEL1118-A
VR201 ACP1039-A
CN205 AKM1072-
CN204 AKM1072-
CN203 AKM1072-
CN202 AKM1055-
V.DY
H.DY
[E1] (R) L1 DY (R) (→SCH-1)
[E2] (G) L2 DY (G) (→SCH-1)
[E3] (B) L3 DY (B) (→SCH-1)
D.F
GND
[E6] VR1 FOCUS VR (→SCH-1)

SCH-15 POWER SUPPLY ASSY (2/3)

POWER SUPPLY ASSY (2/3) **SCH-15**

5.16 POWER SUPPLY ASSY (3/3)


SCH-16
B CRT DRIVE ASSY
P3 (➡SCH-13)
[E5]
CN301
KM250MA5
L301
2.7m
POWER DOWN ASSY
(➡SCH-17)
Ⓐ
Ⓑ
TP310
TP311
☆POWER SUPPLY ASSY (3/3) (AWV1546)
● HIGH VOLTAGE BLOCK
Q305,Q306 :
OVER CURRENT DET.
Q308 : HIGH VOLTAGE
MODULATION
Q309 :
HIGH VOLTAGE
OUTPUT STAGE
T302
CRT ASSY
R, G, B
(➡SCH-1)
J103
ANODE
J105
FOUCS
VR1
FOCUS VR
(➡SCH-1)
J104
ADX1384
GND
CRT ASSY
R, G, B
(➡SCH-1)
TP301
GND
SW POWER
SUPPLY BLOCK
(➡SCH-14)
+135V
H.T+
H.T-
P.D
+13.5V
+25V
H.GND
H.GND
Q301,Q302,Q310 :
X-RAY PROTECTION
H. DEFLECTION
BLOCK
(➡SCH-15)
H.DRIVE
A.B.L
CPU RST
H.DEF-P.D
CN302
KM200IA5
POWER
DOWN
ASSY V1
(➡SCH-17)
+13.5V
P.D
H.DEF-P.D
GND
H.V-P.D
[E12]
T301
ATK1045
Q307
2SC3332
R349
ACN-225
R340 VR302 R342
HIGH VOLT ADJ.
C320
1000p
Q303,Q304,IC301 :
HIGH VOLTAGE CONTROL
IC301
NJM4558DXP
TP302
X-RAY
CPU. RST
SW POWER SUPPLY BLOCK
(➡SCH-14)
:HSS104-02


☆POWER SUPPLY ASSY
RELAY DRIVE ASSY E13
CONVERGENCE ASSY C1
B CONNECTOR ASSY G4
B CONNECTOR ASSY G2
B CRT DRIVE ASSY P3
PCB-10
T1 POWER TRANSFORMER
CAUTION FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,REPLACEMENT FUSES SHOULD BE OF THE SAME TYPE AND RATINGS ONLY
E9
E11
E10
E8
E7
E5
E4
E1
E2
E3
E6
E12
RELAY
AC.CLK
GND
+140V
+135V
DRAIN
GATE
SOUCE
SECONDARY
PRIMARY
H.DEF C.PULSE
H.DEF REG.OUT
H.V C.PULSE
H.V REG.OUT
H SIZE ADJ
H.DRIVE
X-RAY P.D
H.DEF P.D
D.F
D.FOCUS OUT
HV.PARA
CAUTION HIGH VOLTAGE
[R][G][B]
ANODE
FOCUS
J104
AWV1546-A
ANP1843-A
YG-M3
VR302 HIGH VOL.ADJ
VR301 X-RAY ADJ
L3 DY(B)
L2 DY(G)
L1 DY(R)
Q302
Q310
Q301
Q112
Q110
Q113
Q201
Q111
Q202
Q205
Q207
IC102
Q208
Q204
Q206
Q105
Q307
Q203
IC201
Q106
Q309
Q104
Q107
VR201
Q108
IC101
Q209
Q304
VR101
Q308
Q109
Q210
Q303
IC301
Q305
Q306
VR301
VR302
VR1 FOCUS VR
ANODE GND CRT ASSY R,G,B
Ⓑ V1 Ⓐ POWER DOWN ASSY
VR1 FOCUS VR

☐ mark shows the charged section (Power supply primary side circuit).

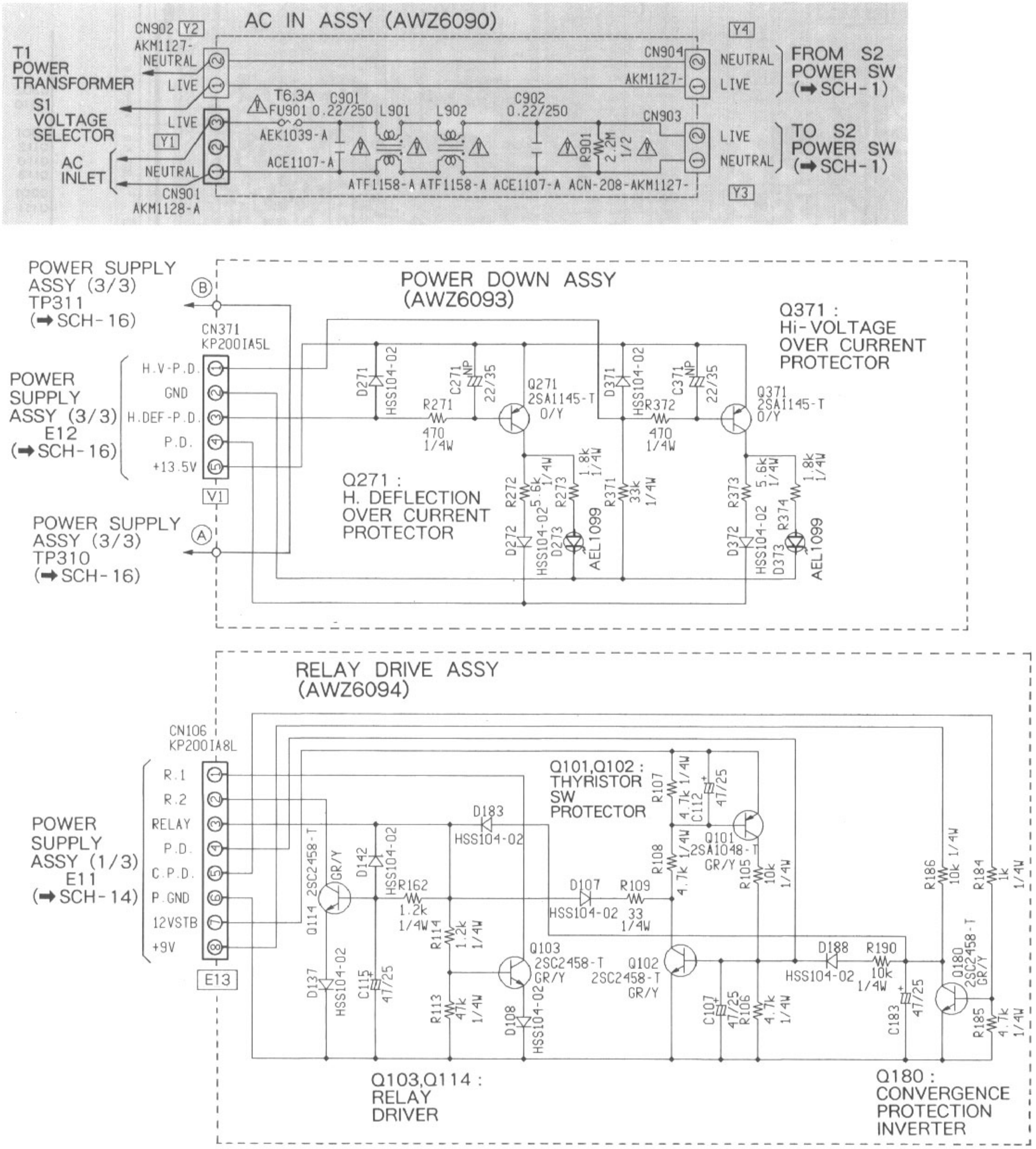
▨ mark shows a high voltage generation point (excepting the charged section).

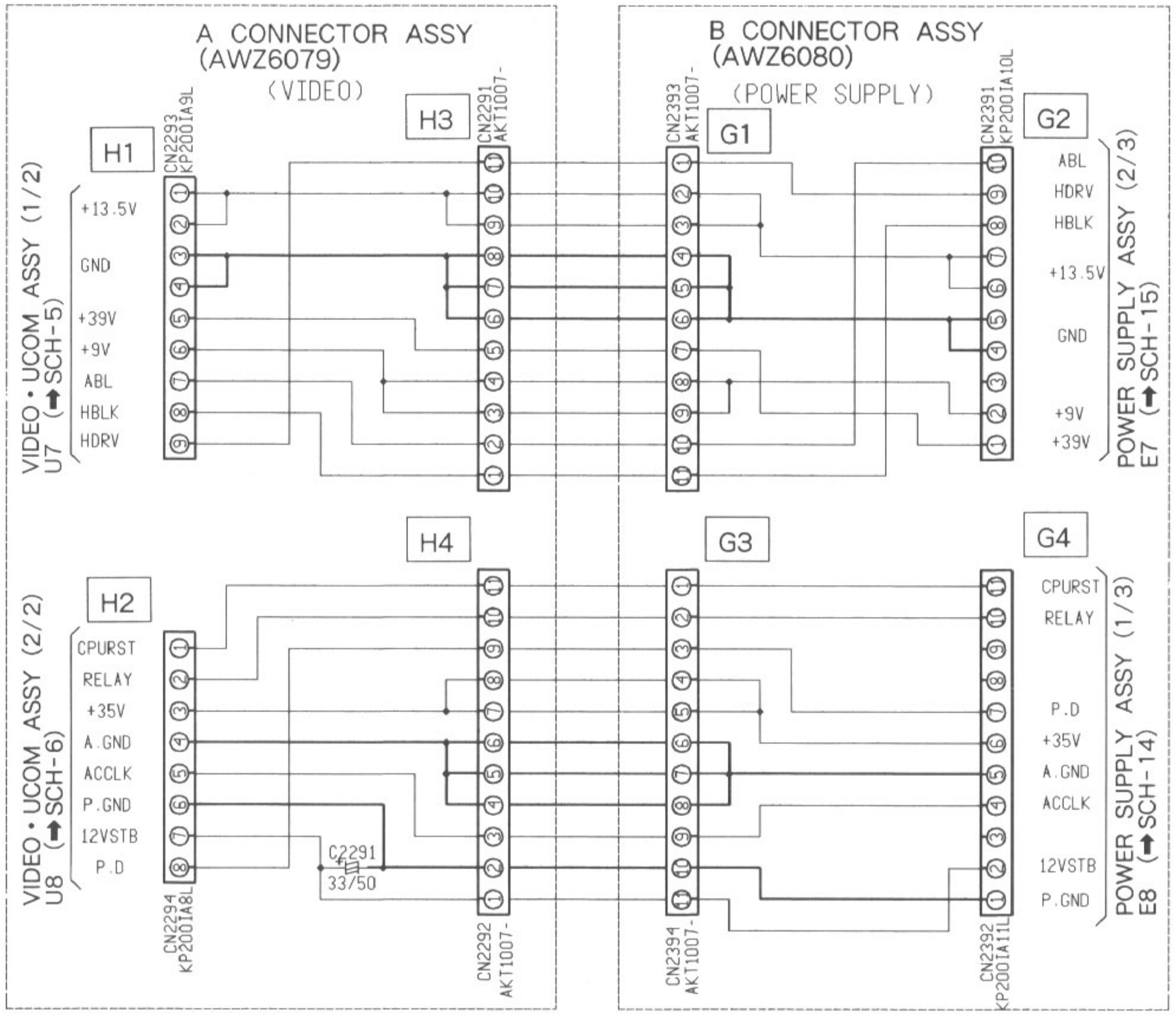
• This diagram is viewed from the mounted parts side.

5.17 AC IN, POWER DOWN, RELAY DRIVE, A CONNECTOR AND B CONNECTOR ASSEMBLIES

▒ : Charged section

SCH-17

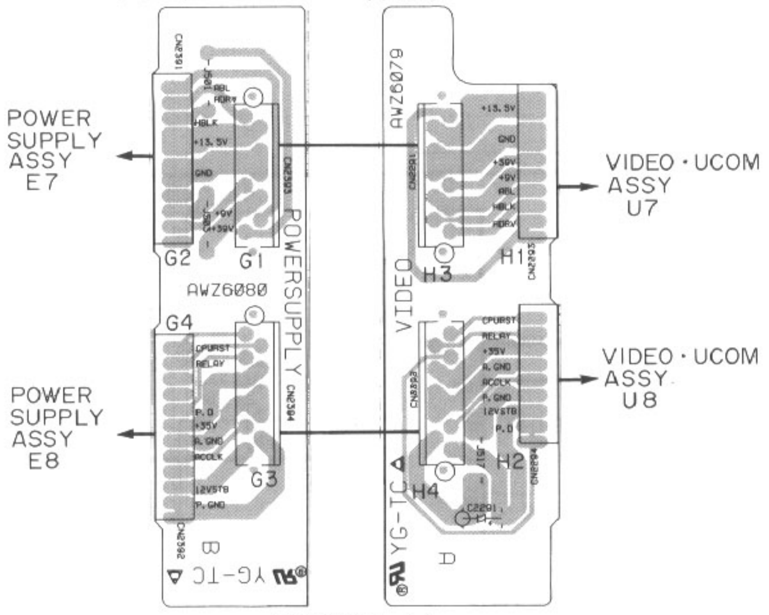

AC IN ASSY (AWZ6090)
CN902 Y2
AKM1127-
T1 POWER TRANSFORMER
NEUTRAL
LIVE
S1 VOLTAGE SELECTOR
AC INLET
CN901 AKM1128-A
Y1
T6.3A FU901
AEK1039-A
ACE1107-A
C901 0.22/250
L901
L902
C902 0.22/250
R901 2.2M 1/2
ATF1158-A ATF1158-A ACE1107-A ACN-208-AKM1127-
CN904 AKM1127-
CN903
Y4
Y3
NEUTRAL
LIVE
FROM S2 POWER SW (➡SCH-1)
TO S2 POWER SW (➡SCH-1)
POWER SUPPLY ASSY (3/3) TP311 (➡SCH-16)
B
POWER DOWN ASSY (AWZ6093)
CN371 KP200IA5L
POWER SUPPLY ASSY (3/3) E12 (➡SCH-16)
H.V-P.D.
GND
H.DEF-P.D.
P.D.
+13.5V
V1
POWER SUPPLY ASSY (3/3) TP310 (➡SCH-16)
A
D271 HSS104-02
C271 NP 22/35
R271 470 1/4W
Q271 2SA1145-T O/Y
D371 HSS104-02
C371 NP 22/35
R372 470 1/4W
Q371 2SA1145-T O/Y
Q371 : Hi-VOLTAGE OVER CURRENT PROTECTOR
Q271 : H. DEFLECTION OVER CURRENT PROTECTOR
R272 5.6k 1/4W
R273 1.8k 1/4W
D272 HSS104-02
D273 AEL1099
R371 33k 1/4W
R373 5.6k 1/4W
R374 1.8k 1/4W
D372 HSS104-02
D373 AEL1099
RELAY DRIVE ASSY (AWZ6094)
CN106 KP200IA8L
POWER SUPPLY ASSY (1/3) E11 (➡SCH-14)
R.1
R.2
RELAY
P.D.
C.P.D.
P.GND
12VSTB
+9V
E13
Q114 2SC2458-T GR/Y
D142 HSS104-02
R162 1.2k 1/4W
D183 HSS104-02
Q101,Q102 : THYRISTOR SW PROTECTOR
R107 4.7k 1/4W
C112 47/25
Q101 2SA1048-T GR/Y
R108 4.7k 1/4W
R105 10k 1/4W
D107 HSS104-02
R109 33 1/4W
R114 1.2k 1/4W
Q103 2SC2458-T GR/Y
Q102 2SC2458-T GR/Y
D137 HSS104-02
C115 47/25
R113 47k 1/4W
D108 HSS104-02
C107 47/25
R106 4.7k 1/4W
D188 HSS104-02
R190 10k 1/4W
C183 47/25
R186 10k 1/4W
R184 1k 1/4W
Q180 2SC2458-T GR/Y
R185 4.7k 1/4W
Q103,Q114 : RELAY DRIVER
Q180 : CONVERGENCE PROTECTION INVERTER


A CONNECTOR ASSY (AWZ6079) (VIDEO)
B CONNECTOR ASSY (AWZ6080) (POWER SUPPLY)
H1
CN2293 KP200IA9L
VIDEO・UCOM ASSY (1/2) U7 (⬆SCH-5)
+13.5V
GND
+39V
+9V
ABL
HBLK
HDRV
H3
CN2291 AKT1007-
G1
CN2393 AKT1007-
G2
CN2391 KP200IA10L
ABL
HDRV
HBLK
+13.5V
GND
+9V
+39V
POWER SUPPLY ASSY (2/3) E7 (⬆SCH-15)
H2
VIDEO・UCOM ASSY (2/2) U8 (⬆SCH-6)
CPURST
RELAY
+35V
A.GND
ACCLK
P.GND
12VSTB
P.D
C2291 33/50
CN2294 KP200IA8L
H4
CN2292 AKT1007-
G3
CN2394 AKT1007-
G4
CN2392 KP200IA11L
CPURST
RELAY
P.D
+35V
A.GND
ACCLK
12VSTB
P.GND
POWER SUPPLY ASSY (1/3) E8 (⬆SCH-14)

PCB-11

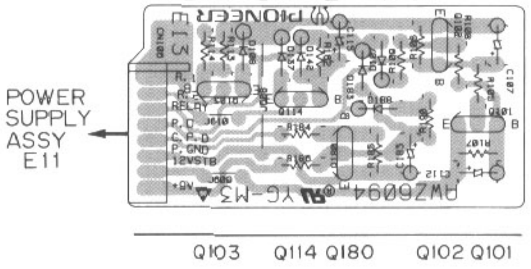
B CONNECTOR ASSY

A CONNECTOR ASSY

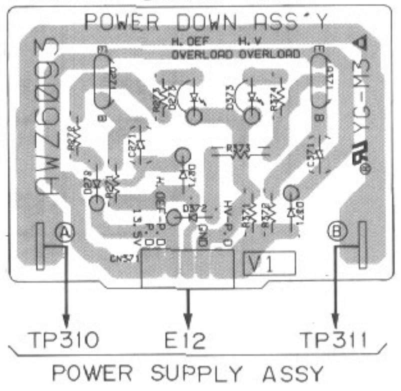

POWER SUPPLY ASSY E7
POWER SUPPLY ASSY E8
VIDEO·UCOM ASSY U7
VIDEO·UCOM ASSY U8
AWZ6080
AWZ6079
POWERSUPPLY
VIDEO
G1
G2
G3
G4
H1
H2
H3
H4
B
A
YG-TC

(ANP1840-A)

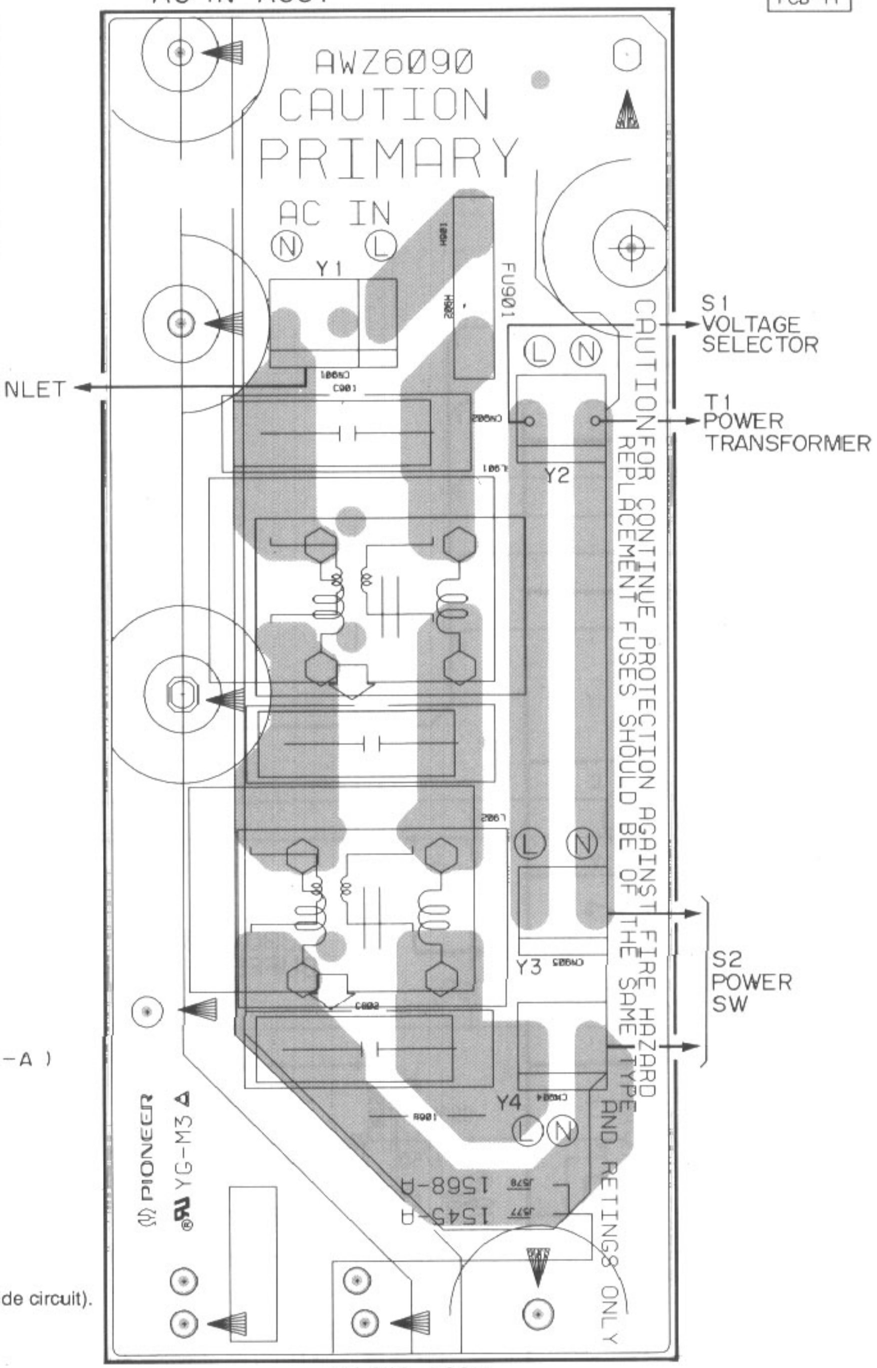
RELAY DRIVE ASSY


POWER SUPPLY ASSY E11
AWZ6094
YG-M3
Q103
Q114
Q180
Q102
Q101

POWER DOWN ASSY


POWER DOWN ASS'Y
AWZ6093
YG-M3
H. DEF OVERLOAD
H. V OVERLOAD
V1
TP310
E12
TP311
POWER SUPPLY ASSY

AC IN ASSY

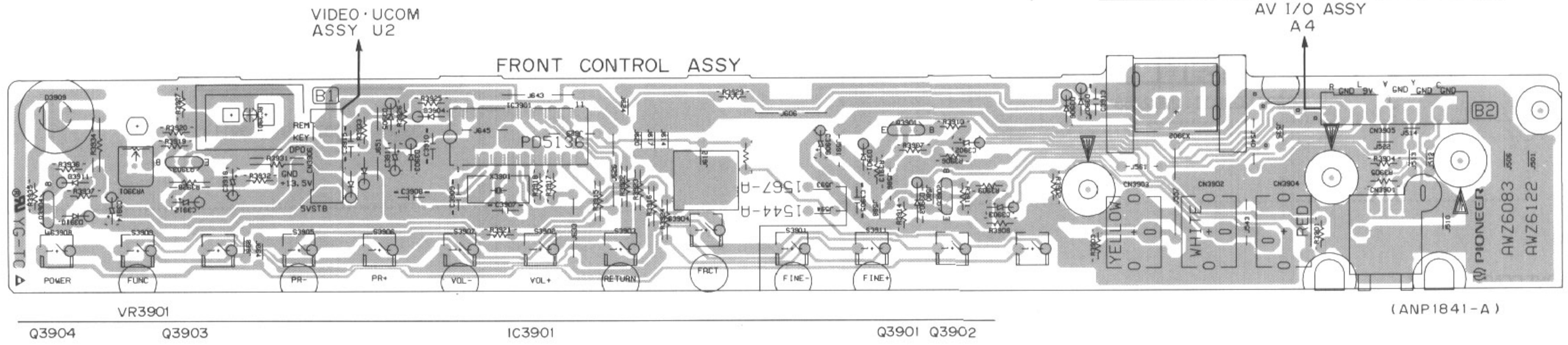

AWZ6090
CAUTION
PRIMARY
AC IN
Y1
Y2
Y3
Y4
FU901
AC INLET
S1 VOLTAGE SELECTOR
T1 POWER TRANSFORMER
S2 POWER SW
CAUTION FOR CONTINUE PROTECTION AGAINST FIRE HAZARD REPLACEMENT FUSES SHOULD BE OF THE SAME TYPE AND RETINGS ONLY
PIONEER
YG-M3
1568-A
1545-A

(ANP1842-A)

• This diagram is viewed from the mounted parts side.

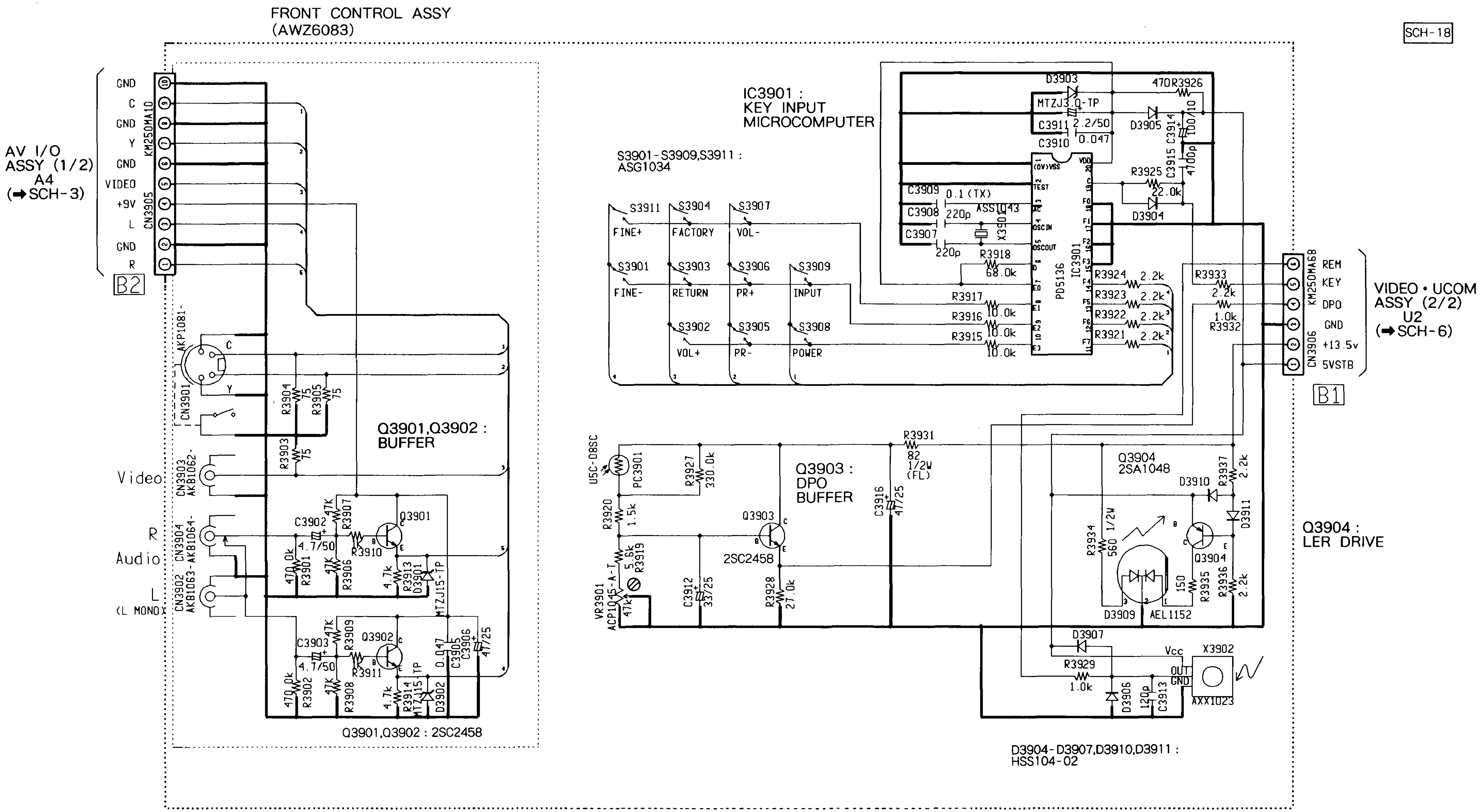
▭ mark shows the charged section (Power supply primary side circuit).

FRONT CONTROL ASSY


VIDEO·UCOM ASSY U2
AV I/O ASSY A4
B1
B2
PD5136
1567-A
1544-A
POWER
FUNC
PR-
PR+
VOL-
VOL+
RETURN
FACT
FINE-
FINE+
YELLOW
WHITE
RED
AWZ6083
AWZ6122
PIONEER
YG-TC
VR3901
Q3904
Q3903
IC3901
Q3901
Q3902

(ANP1841-A)

5.18 FRONT CONTROL ASSY

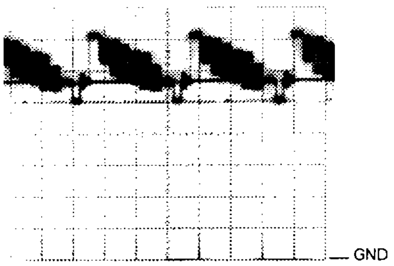

FRONT CONTROL ASSY
(AWZ6083)
SCH-18
AV I/O ASSY (1/2)
A4
(➡SCH-3)
B2
GND
C
GND
Y
GND
VIDEO
+9V
L
GND
R
CN3905 KM250MA10
AKP1081-
CN3901
C
Y
R3904 75
R3905 75
R3903 75
Video
CN3903 AKB1062-
R
Audio
L
(L MONO)
CN3904 AKB1064-
CN3902 AKB1063-
Q3901,Q3902 :
BUFFER
C3902 4.7/50
R3907 47K
R3910
Q3901
R3901 470.0k
R3906 47K
R3913 4.7k
D3901
MTZJ15-TP
C3903 4.7/50
R3909 47K
R3911
Q3902
R3902 470.0k
R3908 47K
R3914 4.7k
MTZJ15-TP
D3902
C3905 0.047
C3906 47/25
Q3901,Q3902 : 2SC2458
IC3901 :
KEY INPUT
MICROCOMPUTER
S3901-S3909,S3911 :
ASG1034
S3911 FINE+
S3904 FACTORY
S3907 VOL-
S3901 FINE-
S3903 RETURN
S3906 PR+
S3909 INPUT
S3902 VOL+
S3905 PR-
S3908 POWER
D3903
MTZJ3.0-TP
470 R3926
C3911 2.2/50
D3905
C3914 100/10
C3910 0.047
C3915 4700p
R3925 22.0k
D3904
C3909 0.1 (TX)
C3908 220p
ASS1043
X3901
C3907 220p
R3918 68.0k
R3917
R3916 10.0k
R3915 10.0k
10.0k
PD5136
IC3901
R3924 2.2k
R3923 2.2k
R3922 2.2k
R3921 2.2k
R3933 2.2k
1.0k R3932
REM
KEY
DPO
GND
+13.5v
5VSTB
CN3906 KM250MA6B
VIDEO • UCOM ASSY (2/2)
U2
(➡SCH-6)
B1
R3931 82 1/2W (FL)
U5C-08SC
PC3901
R3927 330.0k
R3920 1.5k
R3919 5.6k
VR3901 ACP1045-A-T 47k
Q3903 :
DPO
BUFFER
Q3903
2SC2458
C3916 47/25
C3912 33/25
R3928 27.0k
Q3904
2SA1048
D3910
R3937 2.2k
D3911
R3934 560 1/2W
Q3904
R3935 150
R3936 2.2k
D3909
AEL1152
Q3904 :
LER DRIVE
D3907
R3929 1.0k
D3906
C3913 120p
Vcc
OUT
GND
X3902
AXX1023
D3904-D3907,D3910,D3911 :
HSS104-02

5.19 WAVEFORMS AND VOLTAGES

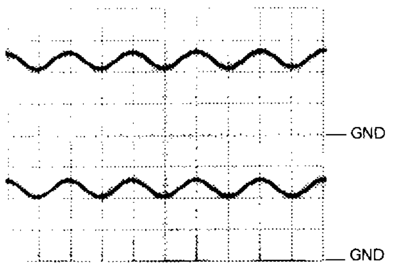
SCH-2 TUNER ASSY

Input Signal : Color-bar , AV3 input
Picture quality : Standard
Range : DC range (Unless otherwise noted)

① **TP1513 (TV V OUT) PAL B/G**
V : 1V/div, H : 20µsec/div



② **TP756 (TV L OUT) B/G**
V : 2V/div, H : 5msec/div
Upper ; L ch, Lower ; R ch



Measuring Point \ System	Voltage (V)				
	M	B/G	I	D/K/L	L'
D1513 Anode	6.1	0.1	4.0	4.2	4.0
D1514 Anode	0	3.3	0	0	0
D1508 Anode	0	0.1	0	4.2	0
D1509 Anode	0	3.3	0	0	0
D1510 Anode	6.1	0.1	4.0	4.2	4.0
D1511 Anode	0	3.3	0	0	0
D1511 Cathode	8.4	2.6	3.3	3.6	3.3
D1533 Anode	5.0	3.6	0.1	3.9	0.2
D1533 Cathode	4.3	3.0	2.9	3.3	2.9
D1512 Anode	2.8	0.2	1.6	1.6	0.2
D1512 Cathode	2.1	8.3	8.3	8.3	8.3

IC1501 (UPC1823ACU)

Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0	12	5.9	23	0.2 to 5.1	34	7.6
2	4.6	13	5.9	24	0	35	7.6
3	8.9	14	8.9	25	5.4	36	0
4	8.9	15	8.0	26	8.6	37	4.9
5	L' : 2.9 other : 0.8	16	M : 0 other : 2.6	27	6.7	38	4.8
6	0	17	L' : 0 other : 2.2	28	3.4	39	4.8
7	L' : 0.8 other : 2.9	18	8.9	29	3.4	40	4.1
8	8.9	19	1.1	30	4.3	41	5.2
9	2.0	20	7.6	31	3.5	42	2.9
10	2.0	21	0	32	4.5		
11	0	22	0.2 to 5.1	33	8.9		

IC1651 (CXA1734S)

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	—	16	4.0
2	—	17	0
3	0	18	4.0
4	0	19	4.0
5	1.3	20	4.0
6	1.3	21	4.0
7	4.0	22	1.7
8	4.2	23	4.0
9	3.4	24	4.1
10	5.3	25	3.9
11	3.9	26	1.7
12	3.2	27	1.3
13	4.1	28	4.1
14	4.0	29	4.1
15	9.1	30	NC

IC1701 (LA7710)

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	4.4	9	9.0
2	4.4	10	2.8
3	6.3	11	6.2
4	NC	12	12.1
5	6.4	13	2.9
6	0	14	5.8
7	6.4	15	4.4
8	8.9	16	4.4

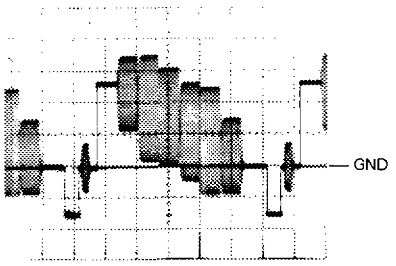
IC1751 (UVS1101A24)

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	3.8	13	4.8
2	3.8	14	—
3	0	15	—
4	3.8	16	0
5	3.8	17	0
6	0	18	6.0
7	3.8	19	6.0
8	0	20	0
9	4.6	21	3.7
10	4.6	22	3.7
11	4.8	23	7.9
12	4.8	24	12.1

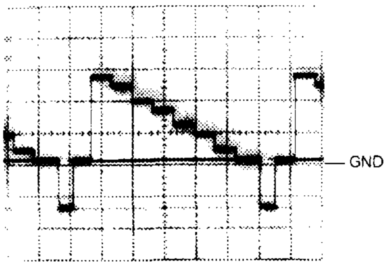
SCH-3 AV I/O (1/2), AV2 AND S TERMINAL ASSEMBLIES

Input Signal : Color-bar , AV3 input
Picture quality : Standard
Range : DC range (Unless otherwise noted)

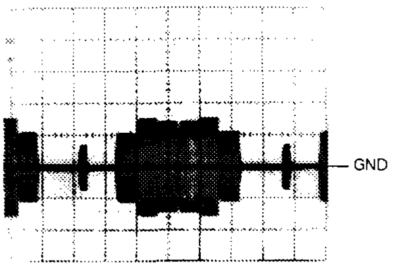
① **CN1801 V IN terminal (VIDEO IN)**
V : 0.2V/div, H : 10µsec/div



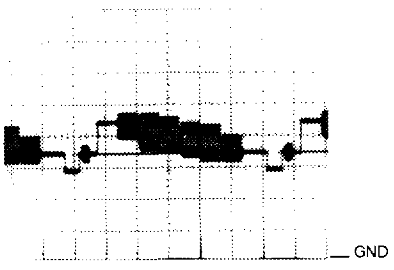
② **CN2131 (Y IN)**
V : 0.2V/div, H : 10 µ sec/div



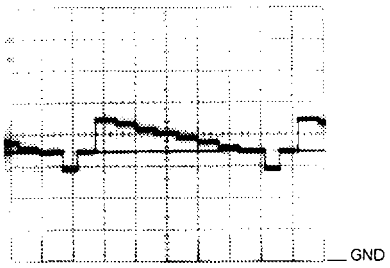
③ **CN2131 (C IN)**
V : 0.2V/div, H : 10 µ sec/div



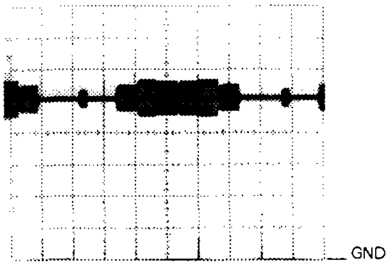
④-1 **CN1815-pin 5 (V OUT)**
V : 1V/div, H : 10 µ sec/div



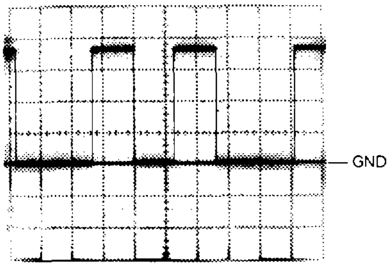
④-2 **CN1815-pin 5 (Y OUT)**
V : 1V/div, H : 10 µ sec/div



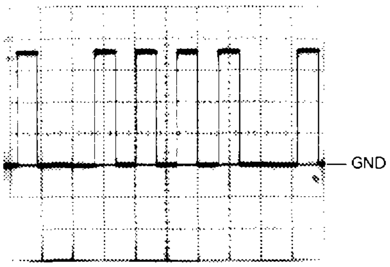
⑤ **CN1815-pin 7 (C OUT)**
V : 1V/div, H : 10 µ sec/div



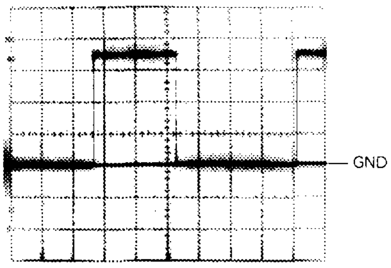
⑥ **CN1802-pin 15 (R IN)**
V : 0.2V/div, H : 10 µ sec/div



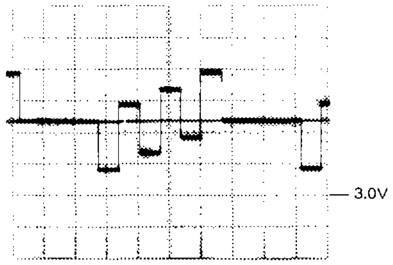
⑦ **CN1802-pin 11 (G IN)**
V : 0.2V/div, H : 10 µ sec/div



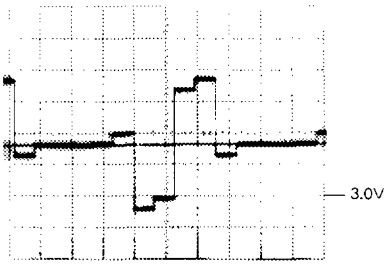
⑧ **CN1802-pin 7 (B IN)**
V : 0.2V/div, H : 10 µ sec/div



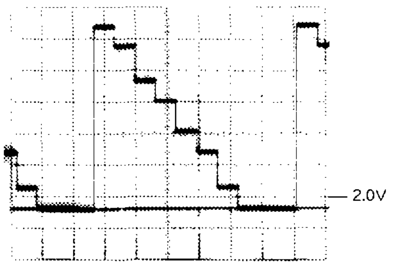
⑨ **CN1815-pin 12 (EXT B-Y)**
V : 0.2V/div, H : 10 µ sec/div



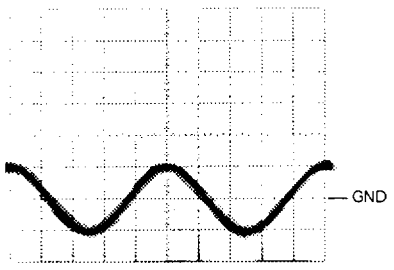
⑩ **CN1815-pin 11 (EXT R-Y)**
V : 0.2V/div, H : 10 µ sec/div



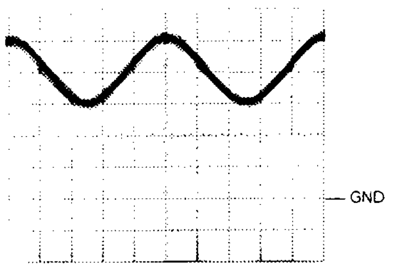
⑪ **CN1815-pin 9 (EXT Y)**
V : 0.2V/div, H : 10 µ sec/div



⑫ **CN1801 L IN terminal**
V : 1V/div, H : 20 µ sec/div



⑬ **CN1815 - pin 2 (L OUT)**
V : 1V/div, H : 20 µ sec/div



IC1802 (CXA1845Q)

Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	4.5	17	4.5	33	0	49	4.5
2	4.6	18	NC	34	4.6	50	4.6
3	4.5	19	4.5	35	4.5	51	NC
4	4.6	20	4.6	36	4.6	52	4.6
5	4.5	21	4.5	37	0	53	4.5
6	NC	22	4.6	38	NC	54	4.6
7	4.5	23	4.5	39	9.0	55	NC
8	4.6	24	NC	40	NC	56	4.5
9	4.5	25	4.5	41	4.6	57	0
10	4.6	26	4.6	42	4.5	58	4.5
11	4.5	27	4.5	43	4.6	59	0
12	NC	28	4.6	44	NC	60	0
13	4.5	29	4.5	45	NC	61	0
14	4.6	30	NC	46	0	62	4.6
15	4.5	31	0/5	47	NC	63	4.5
16	4.6	32	0/5	48	NC	64	4.6

SCH-4 AV I/O ASSY (2/2)

IC2001 (CF72307)

Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	NC	23	1.4	45	3.5
2	NC	24	5	46	0
3	0	25	3.5	47	0
4	0	26	3.5	48	3.5
5	0	27	0	49	0
6	NC	28	0	50	0
7	0	29	5	51	NC
8	5	30	0	52	3.5
9	2.2	31	0	53	5
10	0	32	0	54	0
11	5	33	NC	55	3.5
12	0	34	NC	56	3.4
13	0	35	0	57	3.5
14	5	36	5	58	3.5
15	——	37	5	59	0
16	——	38	5	60	0
17	0	39	5	61	0
18	——	40	0	62	0
19	0	41	0	63	NC
20	——	42	0	64	NC
21	0	43	0		
22	1.4	44	5		

IC2002 (CF72416N)

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	2.2	11	0
2	2.2	12	0
3	1.1	13	0
4	0	14	0
5	2.4	15	2.2
6	2.5	16	5.0
7	5.0	17	0
8	1.6	18	0
9	0	19	0
10	1.7	20	NC

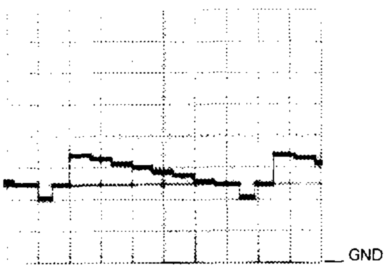
IC2003 (LC32464P-80)

Pin No.	Voltage (V)
1	3.5
2	0
3	0
4	3.5
5	3.4
6	3.5
7	0
8	0
9	5.0
10	3.5
11	0
12	0
13	0
14	0
15	0
16	3.5
17	0
18	0

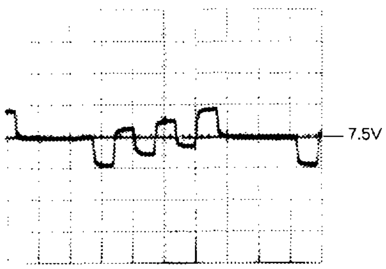
SCH-5 VIDEO • UCOM ASSY (1/2)

Input Signal : PAL EBU Color-bar , AV3 input
Picture quality : Standard
Range : DC range (Unless otherwise noted)

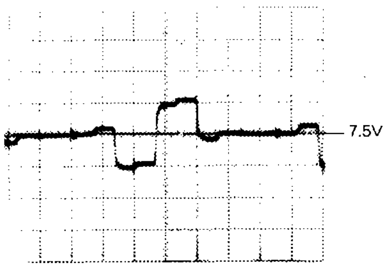
① **CN1009 - pin 10 (Y)**
V : 1V/div, H : 10 µsec/div



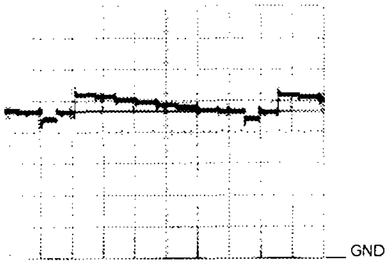
② Q1053 emitter **(B - Y)**
V : 0.5V/div, H : 10 µsec/div



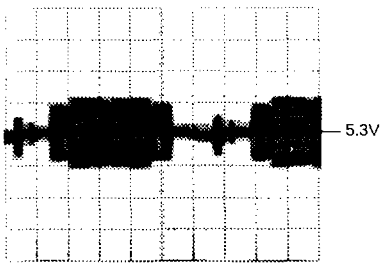
③ Q1052 emitter **(R - Y)**
V : 0.5V/div, H : 10 µsec/div



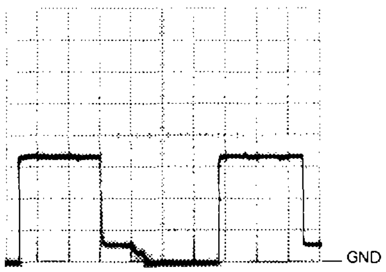
④ **IC1003 - pin 58 (Y IN)**
V : 1V/div, H : 10 µsec/div



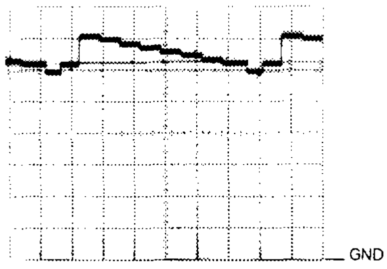
⑤ **TP1007 (C)**
V : 0.2V/div, H : 10 µsec/div



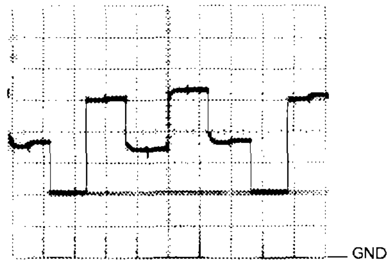
⑥ **CN1007 - pin 9 (H. DRIVE)**
V : 1V/div, H : 10 µsec/div



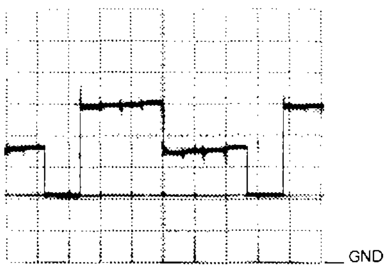
⑦ **IC1003 - pin 33 (Y SYNC)**
V : 1V/div, H : 10 µsec/div



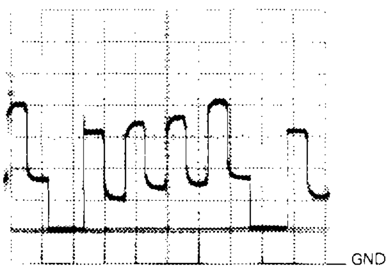
⑧ Q1024 emitter **(R OUT)**
V : 1V/div, H : 10 µsec/div



⑨ Q1023 emitter **(G OUT)**
V : 1V/div, H : 10 µsec/div



⑩ Q1022 emitter **(B OUT)**
V : 1V/div, H : 10 µsec/div

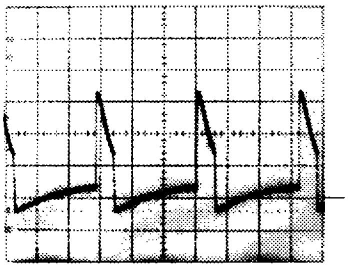


SCH-11 CONVERGENCE ASSY

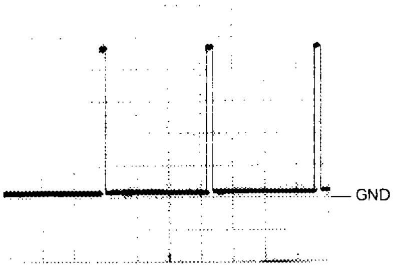
Input Signal : NTSC Color-bar , AV3 input
Picture quality : Standard
Range : DC range (Unless otherwise noted)

• Following waveforms are NTSC signal inputs.

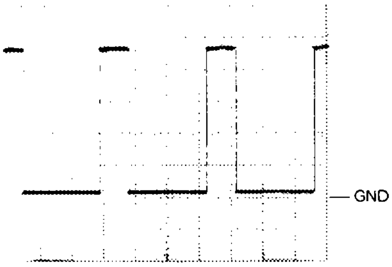
① **P613(H. BLK)**
V:1V/div, H:20 µsec/div



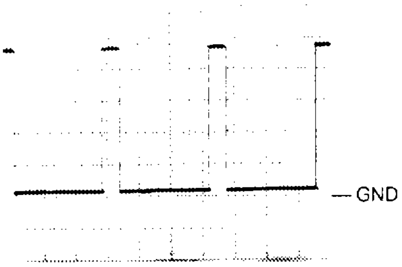
②-1 **P611(V. BLK)**
• Full mode
V:1V/div, H:5msec/div (NTSC)
H:20msec/div (PAL)



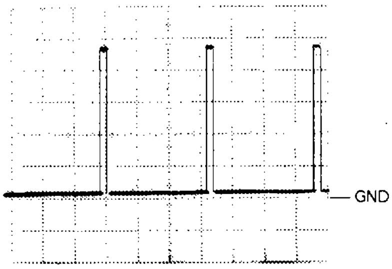
②-2 **P611(V. BLK)**
• Zoom mode
V:1V/div, H:5msec/div (NTSC)
H:20msec/div (PAL)



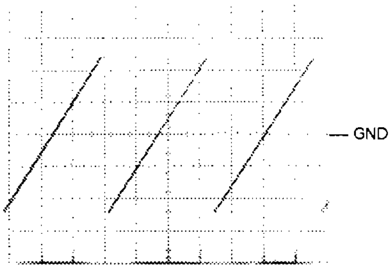
②-3 **P611(V. BLK)**
• Cinema mode
V:1V/div, H:5msec/div (NTSC)
H:20msec/div (PAL)



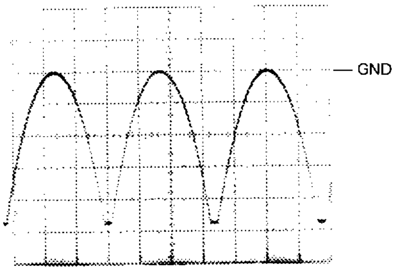
②-4 **P611 (V. BLK)**
• Natural mode
V:1V/div, H:5msec/div (NTSC)
H:20msec/div (PAL)



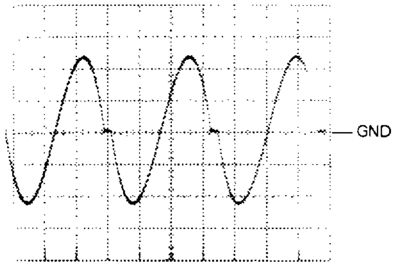
③ **IC604-pin 4 (V1)**
• Natural mode
V:0.5V/div, H:5msec/div (NTSC)
H:20msec/div (PAL)



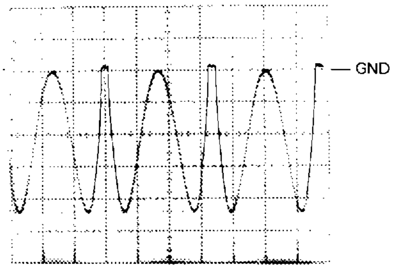
④ **IC604-pin 5 (V2)**
• Natural mode
V:0.5V/div, H:5msec/div (NTSC)
H:20msec/div (PAL)



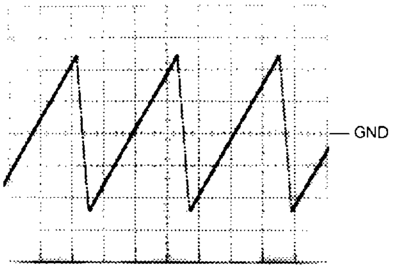
⑤ **IC604-pin 6 (V3)**
• Natural mode
V:0.5V/div, H:5msec/div (NTSC)
H:20msec/div (PAL)



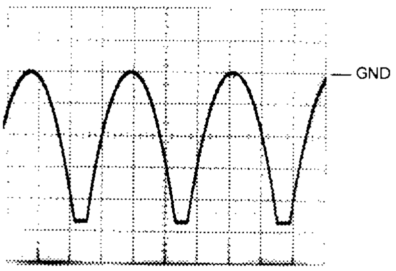
⑥ **IC604-pin 7 (V4)**
• Natural mode
V:0.5V/div, H:5msec/div (NTSC)
H:20msec/div (PAL)



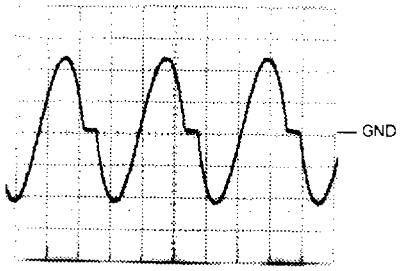
⑦ **IC603-pin 4 (H1)**
V:0.5V/div, H:20 µsec/div



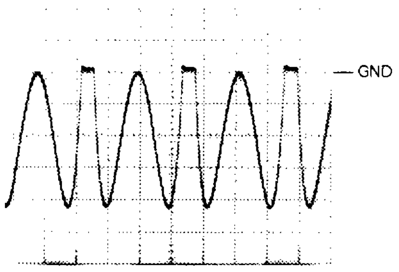
⑧ **IC603-pin 5 (H2)**
V:0.5V/div, H:20 µsec/div



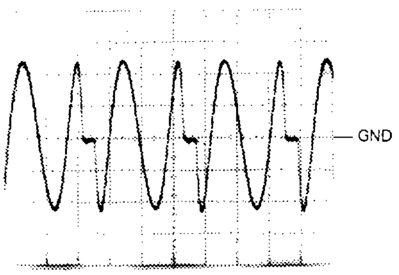
⑨ **IC603-pin 6 (H3)**
V:0.5V/div, H:20 µsec/div



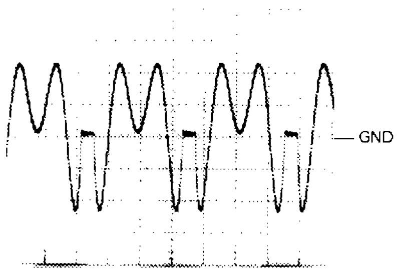
⑩ **IC603 - pin 7 (H4)**
V:0.5V/div, H:20 μsec/div



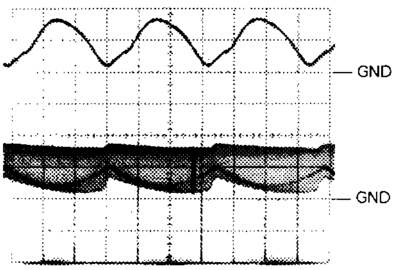
⑪ **IC603 - pin 8 (H5)**
V:0.5V/div, H:20 μsec/div



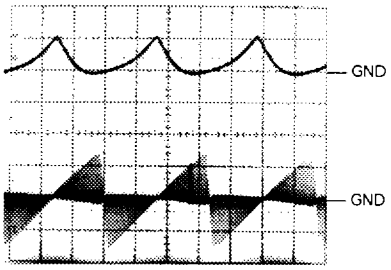
⑫ **IC603 - pin 10 (H6)**
V:0.5V/div, H:20 μsec/div



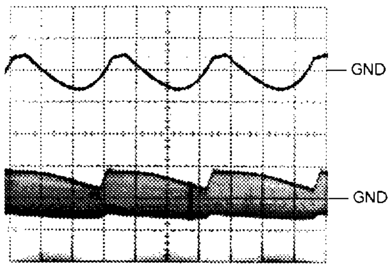
⑬ **C4 - pin 4 (RHR)**
• Natural mode
Upper : H period
V:1V/div, H:20 μsec/div
Lower : V period
V:1V/div, H:5msec/div



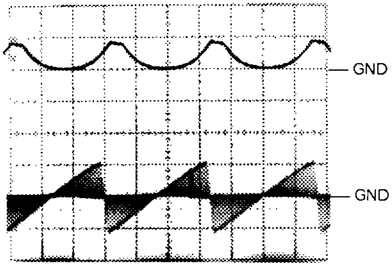
⑭ **C4 - pin 1 (RVR)**
• Natural mode
Upper : H period
V:2V/div, H:20 μsec/div
Lower : V period
V:2V/div, H:5msec/div



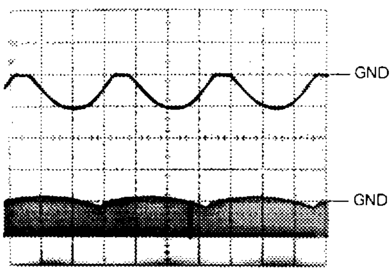
⑮ **C5 - pin 4 (GHR)**
• Natural mode
Upper : H period
V:0.5V/div, H:20 μsec/div
Lower : V period
V:0.5V/div, H:5msec/div



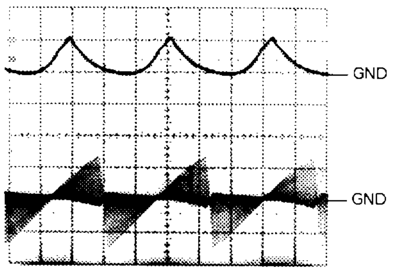
⑯ **C5 - pin 1 (GVR)**
• Natural mode
Upper : H period
V:2V/div, H:20 μsec/div
Lower : V period
V:2V/div, H:5msec/div



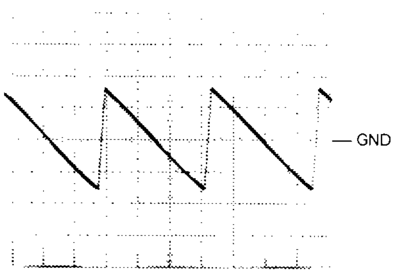
⑰ **C6 - pin 4 (BHR)**
• Natural mode
Upper : H period
V:2V/div, H:20 μsec/div
Lower : V period
V:2V/div, H:5msec/div



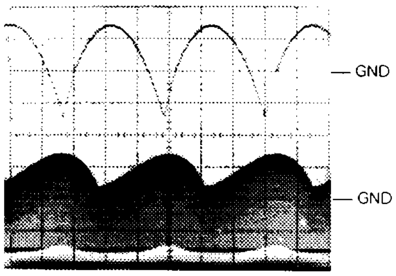
⑱ **C6 - pin 1 (BVR)**
• Natural mode
Upper : H period
V:2V/div, H:20 μsec/div
Lower : V period
V:2V/div, H:5msec/div



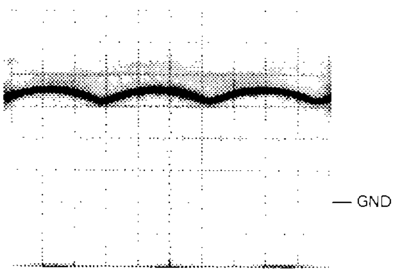
⑲ **C6 - pin 6 (VR)**
• Natural mode)
V:0.5V/div, H:5msec/div



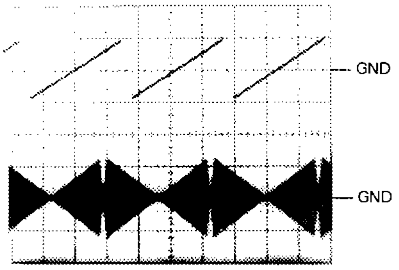
⑳ **D625 Cathode (HV PARA)**
• Natural mode
Upper : H period
V:2V/div, H:20 μsec/div
Lower : V period
V:2V/div, H:5msec/div



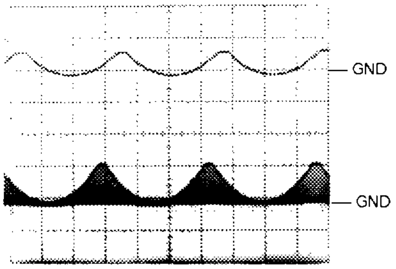
㉑ **C1 - pin 8 (or foot of R680)(P.K.S)**
•Natural mode •V period
V:2V/div, H:5msec/div



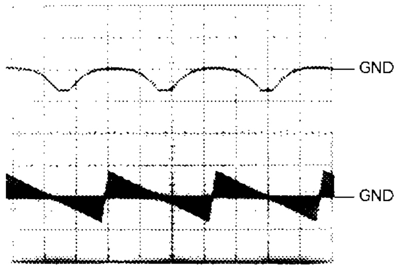
㉒ **C8 - pin 6 (V. KEY)**
• Natural mode
Upper : H period
V:1V/div, H:20 μsec/div
Lower : V period
V:1V/div, H:5msec/div



㉓ **C8 - pin 7 (SUB PIN)**
• Natural mode
Upper : H period
V:1V/div, H:20 μsec/div
Lower : V period
V:1V/div, H:5msec/div



㉔ **C8 - pin 5 (V. PIN)**
• Natural mode
Upper : H period
V:1V/div, H:20 μsec/div
Lower : V period
V:1V/div, H:5msec/div



- Synchronous Frequency

	NTSC	PAL
H. sync	15.734kHz (63.556 μsec)	15.625kHz (64 μsec)
V.sync	59.94Hz (16.683msec)	50Hz (20msec)

IC603 (PA0053B)

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0.4	10	0
2	1.4	11	0.5
3	5.1	12	− 1.1
4	0	13	0.3
5	− 0.9	14	1.2
6	0	15	0
7	− 0.9	16	− 2.1
8	0	17	1.2
9	− 5.0	18	− 1.5

IC604 (PA0053B)

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0.3	10	0
2	1.1	11	0.4
3	5.1	12	− 0.9
4	0	13	0.3
5	− 0.8	14	1.1
6	0	15	0
7	− 1.1	16	− 0.9
8	− 0.1	17	1.2
9	− 4.9	18	− 1.5

IC605 (STK4277)

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0	14	0.5
2	0	15	0
3	− 1.8	16	0
4	− 1.1	17	0
5	——	18	0
6	0	19	0
7	0	20	0
8	0	21	24.8
9	0	22	25.5
10	0	23	0
11	0	24	− 25.2
12	0	25	− 25.6
13	0.6		

IC606 (STK4274)

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0	9	25.4
2	0	10	− 24
3	0	11	0
4	− 8.4	12	− 6.0
5	− 6.0	13	− 8.4
6	0	14	0
7	− 24	15	0
8	25.4		

IC607 (NJM072BD-E)

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	− 0.1	5	0
2	0	6	0
3	0	7	0
4	− 5.0	8	5.0

IC608 (NJM072BD-E)

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	− 0.1	5	− 0.1
2	0	6	− 0.1
3	0	7	− 0.2
4	− 4.9	8	5.0

IC609 (TC4066BP)

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0	8	− 0.9
2	0	9	− 0.9
3	0	10	0
4	0	11	− 0.9
5	5.0	12	− 4.9
6	5.0	13	− 4.9
7	− 5.0	14	5.0

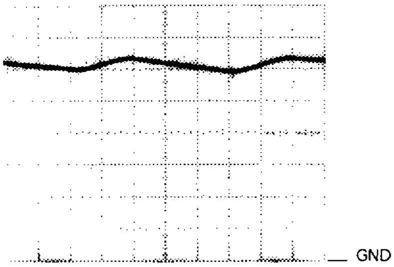
IC611 (TC4053BP)

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0	9	0
2	0	10	0
3	− 4.5	11	0
4	− 0.7	12	0
5	− 0.7	13	0
6	0	14	0
7	− 4.9	15	0
8	0	16	5.0

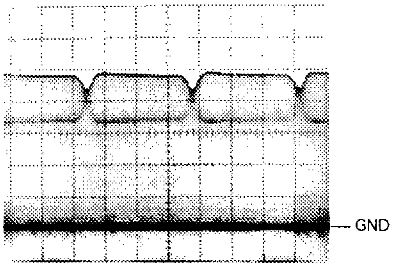
SCH - 14 to 16 POWER SUPPLY ASSY

Input Signal : Color-bar , AV3 input
Picture quality : Standard
Range : DC range (Unless otherwise noted)

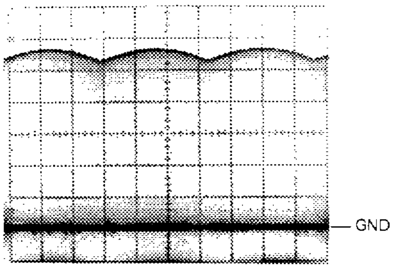
① **D106 cathode**
V : 20V/div, H : 2msec/div



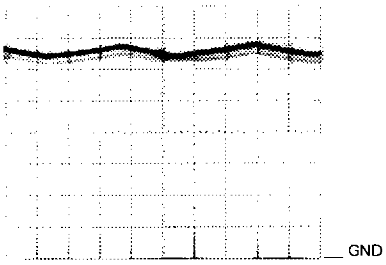
④-2 **Q309 collector**
V : 200V/div, H : 5msec/div



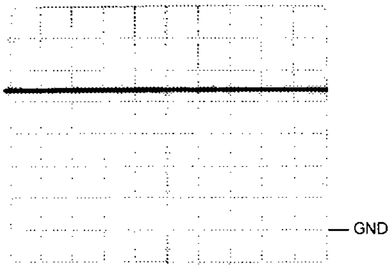
⑦-2 **Q208 collector**
V : 200V/div, H : 5msec/div



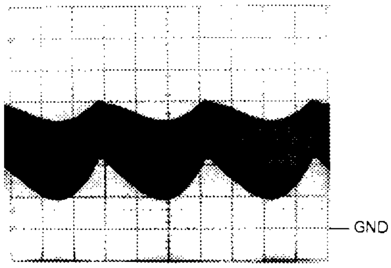
② **C103 + side**
V :2V/div, H : 2msec/div



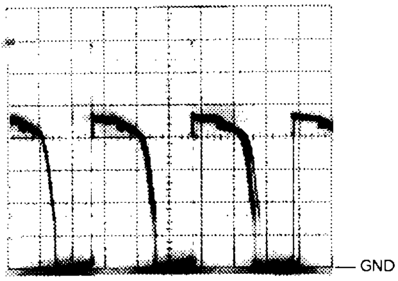
⑤ **R343 (C322 + side) +220V**
V : 50V/div, H : 2msec/div



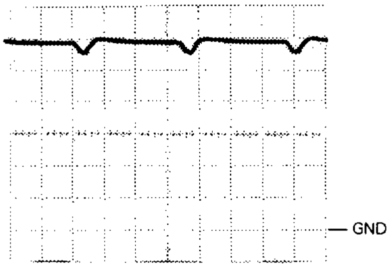
⑧ **Q210 collector**
V : 200V/div, H : 5msec/div



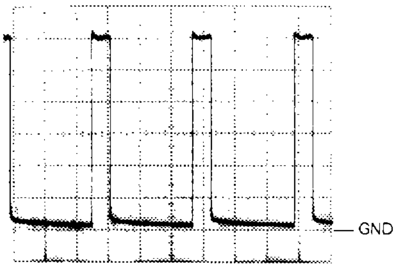
③ **Q104 drain**
V : 50V/div, H : 10 μ sec/div



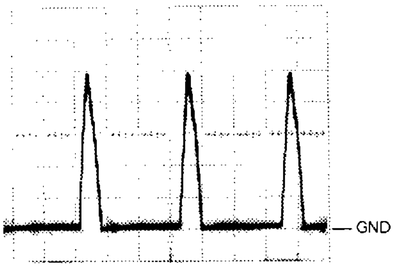
⑥ **R341 (Q308 emitter)**
H. V REG.OUT
V : 20V/div, H : 5msec/div



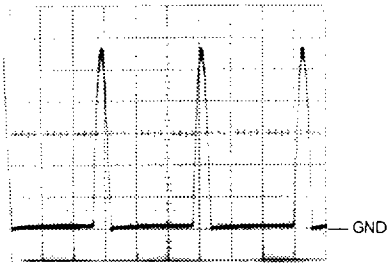
⑨ **TP202 (H. BLK)**
V : 2V/div, H:20 μ sec/div



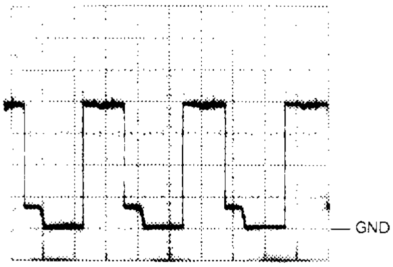
④-1 **Q309 collector**
V : 200V/div, H : 20 μ sec/div



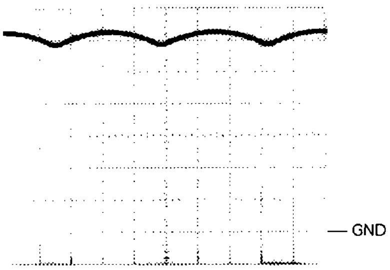
⑦-1 **Q208 collector**
V : 200V/div, H : 20 μ sec/div



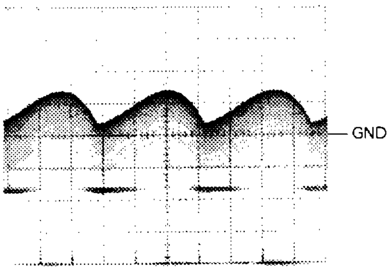
⑩ **Foot of R227 (H. DRIVE)**
V : 1V/div, H:20 μ sec/div



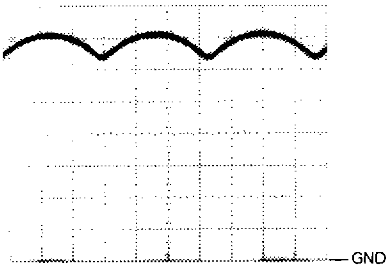
⑪ **D213 cathode**
V : 20 V/div, H: 5msec/div



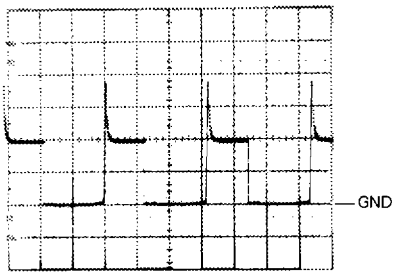
⑫ **TP205 (HV. PARA)**
V : 2 V/div, H: 5msec/div



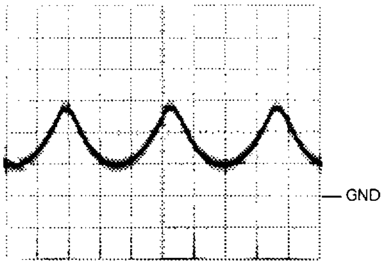
⑬ **Between R203 and R250 (HV. PARA)**
V : 1 V/div, H: 5msec/div



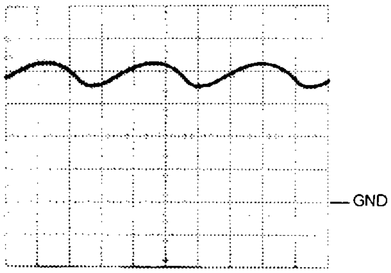
⑭ **Q205 and Q307 collector**
V : 20V/div, H : 20 μ sec/div



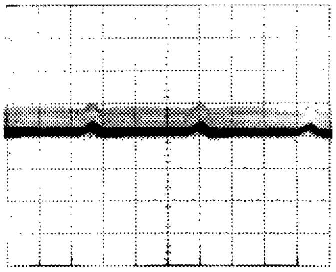
⑮ **Q203 base**
V : 2V/div, H: 5msec/div



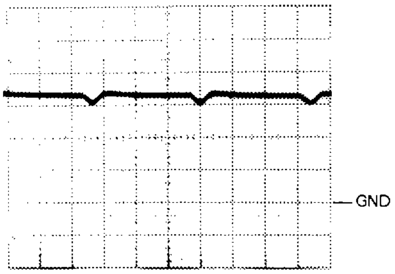
⑯ **Q203 collector**
V : 20 V/div, H: 5msec/div



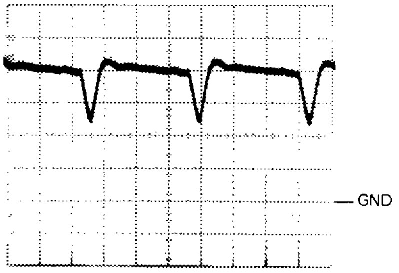
⑰ **TP302 (X - RAY)**
V : 0.2 V/div, H: 5msec/div
AC range



⑱ **Q303 base**
V : 2V/div, H : 5msec/div



⑲ **Q304 collector**
V : 20 V/div, H: 5msec/div



6. PCB PARTS LIST

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

  Ex.1 When there are 2 effective digits(any digit apart from 0), such as 560 ohm and 47k ohm(tolerance is shown by J=5%, and K=10%).

  560 Ω → 56×10^1 → 561 ………… RD1/4PU$\boxed{5}\boxed{6}\boxed{1}$J
  47k Ω → 47×10^3 → 473 ………… RD1/4PU$\boxed{4}\boxed{7}\boxed{3}$J
  0.5 Ω → 0R5 ………… RN2H$\boxed{0}\boxed{R}\boxed{5}$K
  1 Ω → 1R0 ………… RS1P$\boxed{1}\boxed{R}\boxed{0}$K

  Ex.2 When there are 3 effective digits(such as in high precision metal film resistors).

  5.62k Ω → 562×10^1 → 5621 ………… RN1/4PC$\boxed{5}\boxed{6}\boxed{2}\boxed{1}$F
- *Parts marked by ☆ are important parts which relate in X- rays radiation. If any of these parts need to be replaced, always replace with specified parts.*
- *Parts marked by ✕ are important parts which relate in X- rays radiation. If a failure occurs in any of these parts, replace the printed circuit board assembly where the relevant part has already been adjusted as a working component. Do not replace the actual part itself. If any part marked by ✕ is replaced, there is danger of being exposed to X- rays.*

LIST OF ASSEMBLIES

Mark	No.	Description	Part No.
		CONVERGENCE ASSY	AWV1520
		VIDEO•UCOM ASSY	AWV1542
NSP		TUNER ASSY (SD-T50W1)	AWV1543
NSP		TUNER ASSY (SD-T430W1)	AWV1586
		├ TUNER ASSY	AWZ6075
		├ R CONV DAC ASSY (SD-T50W1)	AWZ6076
		├ R CONV DAC ASSY (SD-T43W1)	AWZ6152
		├ G CONV DAC ASSY (SD-T50W1)	AWZ6077
		├ G CONV DAC ASSY (SD-T43W1)	AWZ6153
		├ B CONV DAC ASSY (SD-T50W1)	AWZ6078
		├ B CONV DAC ASSY (SD-T43W1)	AWZ6154
		├ A CONNECTOR ASSY	AWZ6079
		├ B CONNECTOR ASSY	AWZ6080
		└ C CONNECTOR ASSY	AWZ6081
NSP		AV I/O ASSY	AWV1544
		├ AV I/O ASSY	AWZ6082
		├ FRONT CONTROL ASSY	AWZ6083
		├ AV2 ASSY	AWZ6084
NSP		└ S TERMINAL ASSY	AWZ6085
NSP		CRT DRIVE ASSY	AWV1545
		├ AUDIO ASSY	AWZ6086
		├ R CRT DRIVE ASSY	AWZ6087
		├ G CRT DRIVE ASSY	AWZ6088
		├ B CRT DRIVE ASSY	AWZ6089
		├ AC IN ASSY	AWZ6090
		├ Y/C ASSY	AWZ6091
		├ D CONNECTOR ASSY	AWZ6092
		├ POWER DOWN ASSY	AWZ6093
		└ RELAY DRIVE ASSY	AWZ6094
☆		POWER SUPPLY ASSY	AWV1546
		DIGITAL ASSY	AWV1548
		TV FRONT END	AXF1085

CONVERGENCE ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC607, IC608, IC612		NJM072BD-E
	IC602		NJM78M05FAS
	IC601		NJM79M05FA
	IC603, IC604		PA0053B
	IC606		STK4274
	IC605		STK4277
	IC610		TC4052BP
	IC611		TC4053BP
	IC609		TC4066BP
	Q603, Q608, Q616		2SA1048
	Q601, Q602, Q604-Q606		2SC2458
	Q609-Q613, Q615, Q620		2SC2458
	D672, D673		1SS108
	D711		AEL1099
	D602, D603, D612, D675		HSS104-02
	D680, D681, D683, D684, D720		HSS104-02
	D613, D615, D618, D621, D622		MTZJ12
	D624, D625, D627, D628		MTZJ12
	D630-D638, D641, D645-D651		MTZJ12
	D653-D668, D670, D671, D674		MTZJ12
	D677-D679, D682, D685		MTZJ12
	D700-D710		MTZJ12
	D652		MTZJ20
	D606-D609		MTZJ6.8
	D611		RD5.1ESB3
	D686-D699		S5688G

CAPACITORS

Mark	No.	Description	Part No.
	C702		CCCSL151J50
	C689		CEANP010M50
	C688		CEANP100M50
	C609, C638-C642		CEAS010M50
	C674		CEAS100M50
	C613, C621-C623, C629, C630		CEAS101M10
	C647, C657, C664-C667		CEAS101M10
	C677, C678, C706, C708		CEAS101M10
	C662, C673, C699		CEAS220M50

Mark	No.	Description	Part No.
	C676		CEAS221M10
	C687		CEAS2R2M50
	C658, C660		CEAS330M35
	C614, C615, C649, C650		CEAS331M6
	C661		CEAS470M25
	C643		CEASR47M50
	C605, C606		CEHAQ101M10
	C603, C604		CEHAQ470M25
	C710, C712		CEHAQ470M35
	C679-C683, C692, C696		CEHAQ471M35
	C663		CFTYA184J50
	C645, C656		CFTYA224J50
	C691, C713		CKCYB102K50
	C659, C675		CKCYB331K50
	C697, C700		CKCYB471K50
	C703		CKCYB681K50
	C709, C711		CKCYF103Z50
	C601, C602, C607, C608, C612		CKCYF473Z50
	C616-C620, C624, C625		CKCYF473Z50
	C627, C628, C631, C632, C646		CKCYF473Z50
	C648, C652-C655, C668-C672		CKCYF473Z50
	C684-C686, C693-C695, C698		CKCYF473Z50
	C701, C704, C705, C707, C714		CKCYF473Z50
	C633-C636		CKCYX473M16
	C611, C626		CQMA102J50
	C637, C644		CQMA471J50
	C610		CQPA152J100

RESISTORS

	R603-R606, R622, R627		RD1/2PM221J
	R828-R830		RD1/2PM221J
	R771		RD1/2PM271J
	R772-R774		RD1/2PM470J
	R730, R735, R750		RD1/2PMFL220J
	R753		RD1/2PMFL272J
	R769		RN1/4PC1001F
	R729		RS2LMFR47J
	R775		RS3LMF010J
	R602, R804		RS3LMF100J
	R759, R762, R764, R767, R768		RS3LMF3R3J
	R770		RS3LMF3R3J
	R601, R805		RS3LMF4R7J
	R734		RS3LMF6R8J
	R736, R752		RS3LMFR47J
	VR602		VRTS6VS223
	VR603		VRTS6VS472
	VR601		VRTS6VS473
	Other Resistors		RD1/4PU□□□J

OTHERS

	SCREW		ABA1056
	HEAT SINK M		ANH-697
	SHIELD CASE		ANH1165
	SCREW		BBZ30P080FCU
	SCREW		BBZ30P080FZK
	CN605, CN607, CN609	11P PLUG	KM200IA1
	CN606	12P PLUG	KM200IA12
	CN604	13P PLUG	KM200IA13
	CN608	15P PLUG	KM200IA15
	CN603	PLUG 11-P	KM250MA11B

Mark	No.	Description	Part No.
	CN611	PLUG 6-P	KM250MA6
	CN612	PLUG 6-P	KM250MA6B
	CN610	PLUG 6-P	KM250MA6R
	CN601	PLUG 8-P	KM250MA8R
	CN602	PLUG 9-P	KM250MA9B
	SCREW		PBZ30P080FMC

VIDEO·UCOM ASY

SEMICONDUCTORS

	IC3303		AT24C16-10PC
	IC1007		BA7606
	IC1001		CX20125
	IC1005		MC14053BCP
	IC3302		MC34064P
	IC1009		NJM7805FAS
	IC1008		NJM7809FAS
	IC1002		PA0030
	IC3301		PD5372
	IC1003		TA8759BN
	IC3304, IC3305		TC4094BP
	IC1006		TC74HC4053AP
	IC1004		TDA4566
	Q1003, Q1013, Q1015, Q1016, Q1018		2SA1048
	Q1022-Q1024, Q1028, Q1038, Q1041		2SA1048
	Q1054, Q1062, Q1067, Q1068, Q1070		2SA1048
	Q1073, Q1075, Q1077, Q1080, Q1082		2SA1048
	Q1086, Q1087, Q1093, Q1098, Q1099		2SA1048
	Q3301, Q3309, Q3311-Q3316, Q3331		2SA1048
	Q3344		2SA1048
	Q1001, Q1002, Q1004-Q1008		2SC2458
	Q1011, Q1012, Q1017, Q1019-Q1021		2SC2458
	Q1025-Q1027, Q1029-Q1037		2SC2458
	Q1039, Q1040, Q1042-Q1049		2SC2458
	Q1051-Q1053, Q1056, Q1058, Q1060		2SC2458
	Q1063, Q1065, Q1066, Q1071, Q1072		2SC2458
	Q1074, Q1076, Q1078, Q1079, Q1081		2SC2458
	Q1083-Q1085, Q1088-Q1092		2SC2458
	Q1094-Q1097, Q1100, Q3302-Q3307		2SC2458
	Q3310, Q3317-Q3323, Q3325-Q3327		2SC2458
	Q3329, Q3330, Q3343		2SC2458
	Q3328		2SC2878
	Q3308		2SD880
	Q1057, Q1059, Q1061		2SK117
	Q1009, Q1010, Q1014, Q1050, Q1055		DTC124ES
	Q1064, Q1069, Q1101, Q3332-Q3342		DTC124ES
	D1001-D1005, D1007-D1010		HSS104-02
	D1012-D1015, D1017-D1036, D1040		HSS104-02
	D1043-D1045, D1048-D1059		HSS104-02
	D1062-D1065, D1072-D1089		HSS104-02
	D1091-D1094, D1096-D1108, D1118		HSS104-02
	D1121, D1123, D1124, D1126-D1128		HSS104-02
	D3302, D3305-D3311, D3313-D3318		HSS104-02
	D3354, D3362-D3366, D3388-D3391		HSS104-02
	D1066-D1071, D1090, D1095, D1117		MTZJ12

Mark	No. Description	Part No.
	D3360, D3383-D3386	MTZJ15
	D3301, D3303, D3304, D3319-D3340	MTZJ6.8
	D3342-D3353, D3356, D3361	MTZJ6.8
	D3367-D3382, D3387, D3392	MTZJ6.8
	D1047	RD3.0ESB2
	D1041, D1042	RD4.3ESB3
	D3312	RD5.1ESB2
	D1011	RD5.1ESB3
	D3341, D3355, D3357-D3359	RD6.2ESB2
	D1006, D1016, D1037-D1039	S5688G

COILS

	L1006	ATG1009
	L1010	ATG1026
	L1001, L1008	ATG1027
	L1007	ATG1033
	DL1002	ATN1014
	DL1001	ATN1036
	L3301	LAU100K
	L1003	LAU121K
	L1002, L1014	LAU270K
	L1005	LAU390K
	L1004	LAU3R3K
	L1015, L1016	LAU470K
	L1011-L1013	LAU6R8K
	L1009	LAU8R2K

CAPACITORS

	TC3301	ACM-020
	C1033	CCCCH070D50
	C1042	CCCCH080D50
	C1076	CCCCH120J50
	C1022, C1024	CCCCH121J50
	C1104	CCCCH180J50
	C1026, C1032	CCCCH181J50
	C1044, C1072, C1129	CCCCH220J50
	C1040, C1067	CCCCH270J50
	C1080	CCCCH330J50
	C1028, C1077	CCCCH390J50
	C1053	CCCCH470J50
	C1100	CCCCH820J50
	C1054, C1058, C1090-C1092	CCCSL101J50
	C1116, C1117, C1145, C1173, C1174	CCCSL101J50
	C3336, C3339-C3342	CCCSL101J50
	C1081, C1087	CCCSL121J50
	C1008, C1009, C1011, C1012, C1088	CCCSL151J50
	C1016, C1107, C1157, C1158	CCCSL221J50
	C3332, C3333	CCCSL221J50
	C3324	CCCSL270J50
	C1144	CCCSL271J50
	C1027	CCCSL390J50
	C1089	CCCSL560J50
	C1017, C1115, C1125, C3331	CCCSL680J50
	C1113, C1114, C3345	CCCSL820J50
	C1134, C1135, C1171	CEANP0R1M50
	C1073	CEANP2R2M50
	C1001, C1021, C1031, C1064, C3311	CEAS010M50
	C3314, C3317-C3320, C3330	CEAS010M50

Mark	No. Description	Part No.
	C3307	CEAS0R1M50
	C1002, C1018, C1036, C3302	CEAS100M50
	C1037, C3312, C3322, C3334, C3337	CEAS101M10
	C3343	CEAS101M10
	C1007, C1025, C1074, C1093, C1098	CEAS101M25
	C1101, C1122, C1168, C1175	CEAS101M25
	C1004, C1020, C1060	CEAS220M50
	C1095	CEAS221M16
	C1041	CEAS222M16
	C1085, C1097	CEAS331M16
	C1049, C3306	CEAS3R3M50
	C1010, C1014, C1029, C1061, C1105	CEAS470M25
	C1110, C1111, C1120, C1136, C1137	CEAS470M25
	C1139, C1141, C1143, C1146	CEAS470M25
	C1161, C1162, C1182, C3315	CEAS470M25
	C3310	CEAS471M25
	C1006, C1112, C1155, C1170	CEAS4R7M50
	C1169	CEAS6R8M50
	C1130-C1133, C1147, C1148	CEASR33M50
	C1019, C1118, C1119	CEASR47M50
	C1015	CEASR68M50
	C1150	CEHAQ102M10
	C1149	CEHAQ102M16
	C1153, C1154	CEHAQ470M25
	C3301, C3346	CFTXA103J50
	C1046, C1048, C1052, C1055, C1057	CFTXA104J50
	C1059	CFTXA104J50
	C1079	CFTXA105J50
	C1005, C1069, C1176-C1179	CFTXA224J50
	C1038, C1181	CKCYB102K50
	C1034, C1047, C1051, C1056, C1068	CKCYB103K50
	C1075, C3305, C3308	CKCYB103K50
	C1084	CKCYB331K50
	C1082, C1083	CKCYB391K50
	C1124, C1126	CKCYB471K50
	C3303	CKCYB472K50
	C1003	CKCYB821K50
	C1035, C1043, C1045, C1050, C1065	CKCYF103Z50
	C1071, C1086, C1103, C1121, C1123	CKCYF103Z50
	C1138, C1140, C1142, C1151, C1152	CKCYF103Z50
	C1183, C3304, C3309, C3313, C3316	CKCYF103Z50
	C3323, C3325, C3329, C3335, C3338	CKCYF103Z50
	C3344	CKCYF103Z50
	C1156	CKCYF223Z50
	C1160, C1167	CKCYF472Z50
	C1013, C1106, C1163	CKCYF473Z50
	C1023, C1063, C1094, C1096, C1102	CKCYX104M25
	C1128	CKCYX104M25
	C1099	CQMA223J50
	C1062	CQMA393J50
	C1070	CQMA472J50
	C1039, C3321	CQMA473J50
	C1066, C1078	CQMA563J50

RESISTORS

	R1048	ACN1050
	R1190-R1192	RD1/2PM100J
	R3329	RD1/2PM122J
	R1170, R1172, R1174, R3474, R3475	RD1/2PM221J
	R1146-R1148, R1189	RD1/2PM471J

Mark	No.	Description	Part No.
	R1197		RD1/2PMFL4R7J
	R3422		RD1/4PMFL3R3J
	R3567		RN1/4PC2201F
	R1431		RS1LMF010J
	R1430		RS1LMFR47J
	R3326		RS1MMF150J
	R1397		RS3LMF1R8J
	R1049		RS3LMF4R7J
	VR1001	(470Ω)	ACP1039
	VR1002, VR1003		VRTS6HS471
		Other Resistors	RD1/4PU□□□J

OTHERS

Mark	No.	Description	Part No.
	CN1003	SOCKET 50-P	AKP1161
		HEAT SINK	ANH-309
		HEAT SINK	ANH-880
		SHIELD CASE	ANH1165
		SHIELD PLATE	ANK1500
	X3301	CERAMIC RESONATOR	ASS1015
	X1003	CERAMIC RESONATOR	ASS1019
	X1001	CRYSTAL RESONATOR	ASS1091
	X1002	CRYSTAL RESONATOR	ASS1092
		SCREW	BBZ30P080FMC
	CN1009	15P PLUG	KM200IA15
	CN1010	5P PLUG	KM200IA5
	CN3305	8P PLUG	KM200IA8
	CN1007	9P PLUG	KM200IA9
	CN3302	PLUG 11-P	KM250MA11
	CN3301	PLUG 6-P	KM250MA6
	CN1001	PLUG 9-P	KM250MA9R
	CN1011	13P SOCKET	KP250NA13
	CN1012, CN3306	SOCKET 15-P	KP250NA15
	CN3304	SOCKET 4-P	KP250NA4
	CN3303	SOCKET 7-P	KP250NA7

TUNER ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC1752		AT24C01A10PC
	IC1651		CXA1734S
	IC1701		LA7710
	IC1501		UPC1823ACU
	IC1751		UVS1101A24
	Q1524, Q1527, Q1528, Q1533, Q1756		2SA1048
	Q1501, Q1510, Q1512, Q1517, Q1523		2SC2458
	Q1525, Q1529-Q1531, Q1536, Q1543		2SC2458
	Q1545, Q1651, Q1653, Q1704		2SC2458
	Q1751-Q1754, Q1757, Q1758		2SC2458
	Q1781, Q1782		2SC2458
	Q1502-Q1507, Q1535, Q1540, Q1541		2SC2668
	Q1701-Q1703, Q1759		2SC2668
	Q1518, Q1519, Q1526, Q1532, Q1783		2SC2878
	Q1521, Q1522		2SK246
	Q1511, Q1513-Q1515, Q1542, Q1544		XDC124ES
	Q1755		XDC124ES
	D1508-D1514, D1517, D1533		1SS85
	D1501-D1506, D1519-D1521		HSS104-02
	D1523-D1526, D1530-D1532		HSS104-02
	D1534, D1535, D1753		HSS104-02
	D1536, D1651, D1652		MTZJ15
	D1515, D1516, D1527, D1537		MTZJ6.8
	D1507		RD33ESB3
	D1518		RD5.1ESB
	D1752		RD8.2ESB2

COILS AND FILTERS

Mark	No.	Description	Part No.
	L1509, L1705		ATC-250
	L1510		ATE-067
	F1510		ATF-114
	F1504		ATF1046
	F1508, F1513, F1514		ATF1051
	F1502		ATF1052
	F1501		ATF1053
	F1505, F1507		ATF1063
	F1509		ATF1132
	F1511		ATF1137
	F1512		ATF1138
	F1503		ATF1140
	F1506		ATF1180
	F1701		ATF1181
	L1517		ATG1031
	L1515, L1756, L1757, L1786		ATX1008
	L1528		LAU100K
	L1503, L1508		LAU1R2J
	L1507, L1702, L1704		LAU1R8J
	L1501, L1502, L1511, L1516		LAU2R2K
	L1518-L1520, L1651, L1703		LAU2R2K
	L1785		LAU2R7J
	L1753		LAU2R7K
	L1782		LAU3R3J
	L1751		LAU3R3K
	L1512		LAU3R9J
	L1513, L1783, L1784		LAU4R7J
	L1752, L1754		LAU4R7K
	L1781		LAU5R6J
	L1514		LAU6R8J
	L1504, L1701		LAUR22J

CAPACITORS

Mark	No.	Description	Part No.
	C1660	(3.3μF, 50V)	ACH1128
	C1653	(10μF, 50V)	ACH1129
	TC1501		ACM-022
	C1519		CCCCH010C50
	C1518, C1550		CCCCH020C50
	C1506, C1507, C1510, C1539, C1551		CCCCH030C50
	C1515, C1516, C1540, C1614, C1634		CCCCH040C50
	C1517, C1557, C1561, C1613, C1633		CCCCH050C50
	C1508, C1611		CCCCH060D50
	C1612		CCCCH070D50
	C1548, C1584		CCCCH080D50
	C1556		CCCCH090D50
	C1543		CCCCH120J50
	C1701, C1781		CCCCH121J50
	C1753		CCCCH151J50
	C1617, C1618		CCCCH180J50
	C1619		CCCCH220J50
	C1716		CCCCH390J50
	C1783		CCCCH271J50
	C1565		CCCCH330J50

Mark	No.	Description	Part No.
	C1784, C1788		CCCCH560J50
	C1531		CCCCH680J50
	C1782		CCCCH820J50
	C1527-C1530, C1564, C1602		CCCSL101J50
	C1754, C1755		CCCSL121J50
	C1620		CCCSL221J50
	C1597		CCCSL470J50
	C1512		CCCSL560J50
	C1621		CCCSL680J50
	C1576, C1654, C1659, C1720		CEAS010M50
	C1503, C1572, C1596, C1598, C1652		CEAS100M50
	C1713, C1714		CEAS100M50
	C1526, C1767		CEAS101M10
	C1552, C1554, C1667, C1705, C1707		CEAS101M25
	C1523		CEAS102M16
	C1715		CEAS220M50
	C1604		CEAS221M10
	C1703		CEAS221M16
	C1570, C1579, C1588, C1590, C1591		CEAS470M25
	C1593, C1599, C1600, C1670, C1752		CEAS470M25
	C1757, C1763, C1766, C1768, C1771		CEAS470M25
	C1786		CEAS470M25
	C1586		CEAS471M16
	C1574, C1655, C1656, C1664-C1666		CEAS4R7M50
	C1668, C1669, C1758-C1762		CEAS4R7M50
	C1772, C1773, C1790, C1791		CEAS4R7M50
	C1501		CEAS6R8M50
	C1568, C1577, C1581, C1661		CEASR47M50
	C1657		CFTXA224J50
	C1622		CFTXA334J50
	C1562		CFTYA104J50
	C1504, C1505, C1509, C1511		CKCYB102K50
	C1513, C1514, C1520, C1536, C1542		CKCYB102K50
	C1545-C1547, C1549, C1553, C1555		CKCYB102K50
	C1558, C1559, C1582, C1583, C1585		CKCYB102K50
	C1595, C1610, C1625, C1702, C1708		CKCYB102K50
	C1710		CKCYB102K50
	C1560, C1563, C1566, C1567, C1580		CKCYB103K50
	C1605, C1616, C1711, C1712, C1717		CKCYB103K50
	C1774		CKCYB103K50
	C1573, C1651, C1658, C1719		CKCYB222K50
	C1792		CKCYB681K50
	C1521, C1522, C1524, C1525, C1534		CKCYF103Z50
	C1544, C1569, C1578, C1587, C1589		CKCYF103Z50
	C1592, C1594, C1601, C1671, C1672		CKCYF103Z50
	C1704, C1706, C1709, C1718, C1751		CKCYF103Z50
	C1756, C1764, C1765, C1769, C1770		CKCYF103Z50
	C1785, C1787, C1789		CKCYF103Z50
	C1575		CQMA153J50
	C1663		CQMA272J50
	C1662		CQMA473J50

RESISTORS

Mark	No.	Description	Part No.
	R1504		RD1/2PM562J
	R1517, R1518		RD1/2PM681J
	R1550		RD1/4PMFL101J
	R1539		RD1/4PMFL331J
	R1513, R1533, R1710		RD1/4PMFL471J
	R1703		RD1/4PMFL681J
	R1655		RN1/4PC4302F
	R1656		RN1/4PC6202F
	R1606		RS2LMF4R7J
	VR1502	(4.7kΩ)	ACP1042
	VR1501		VRTS6VS105
		Other Resistors	RD1/4PU□□□J

OTHERS

Mark	No.	Description	Part No.
		PLUG CORD	ADE-082
	KN9999	GROUND PLATE	ANK-142
	X1501	CERAMIC RESONATOR(15.675kHz)	ASS1122
		SCREW	BBZ30P060FMC

R CONV DAC ASSY

• CONTRAST OF AWZ6076 AND AWZ6152

AWZ6076 and AWZ6152 have the same construction except for the following :

Symbol & Description	Part No.	
	AWZ6076	AWZ6152
R3036	Not used	RD1/4PU202J
R3044	RD1/4PU134J	RD1/4PU154J

• PARTS LIST FOR AWZ6076

SEMICONDUCTORS

IC3001	PM0002B
D3002-D3005, D3007, D3008	MTZJ12
D3001, D3006	MTZJ6.8
TH3001	NTH5D102KA

CAPACITORS

C3006, C3007, C3009, C3010	CCCCH101J50
C3008	CEAS100M50
C3003, C3005	CEAS331M6
C3001, C3002, C3004	CKCYF473Z50

RESISTORS

All Resistors	RD1/4PU□□□J

OTHERS

CN3002	11P SOCKET	KP200IA11L
CN3001	13P SOCKET	KP200IA13L

G CONV DAC ASSY

• CONTRAST OF AWZ6077 AND AWZ6153

AWZ6077 and AWZ6153 have the same construction except for the following :

Symbol & Description	Part No.	
	AWZ6077	AWZ6153
R3139	RD1/4PU133J	RD1/4PU153J

• PARTS LIST FOR AWZ6077

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC3101		PM0002B
	D3102-D3105, D3107, D3108		MTZJ12
	D3101, D3106		MTZJ6.8

CAPACITORS

	C3106, C3107, C3109, C3110		CCCCH101J50
	C3108		CEAS100M50
	C3103, C3105		CEAS331M6
	C3101, C3102, C3104		CKCYF473Z50

RESISTORS

		All Resistors	RD1/4PU□□□J

OTHERS

	CN3102	11P SOCKET	KP200IA11L
	CN3101	12P SOCKET	KP200IA12L

B CONV DAC ASSY

• CONTRAST OF AWZ6078 AND AWZ6154

AWZ6078 and AWZ6154 have the same construction except for the following :

Symbol & Description	Part No.	
	AWZ6078	AWZ6154
R3236	RD1/4PU133J	RD1/4PU153J
R3238	RD1/4PU104J	RD1/4PU683J
R3239	RD1/4PU184J	RD1/4PU154J

• PARTS LIST FOR AWZ6078

SEMICONDUCTORS

	IC3201		PM0002B
	D3202-D3205, D3207, D3208		MTZJ12
	D3201, D3206		MTZJ6.8
	TH3201		NTH5D102KA

CAPACITORS

	C3206, C3208-C3210		CCCCH101J50
	C3207		CEAS100M50
	C3203, C3205		CEAS331M6
	C3201, C3202, C3204		CKCYF473Z50

RESISTORS

		All Resistors	RD1/4PU□□□J

OTHERS

	CN3202	11P SOCKET	KP200IA11L
	CN3201	15P SOCKET	KP200IA15L

A CONNECTOR ASSY

CAPACITORS

Mark	No.	Description	Part No.
	C2219		CEAS330M50

OTHERS

		CABLE HOLDER	AKT1007
	CN2294	8P SOCKET	KP200IA8L
	CN2293	9P SOCKET	KP200IA9L

B CONNECTOR ASSY

OTHERS

		CABLE HOLDER	AKT1007
	CN2391	10P SOCKET	KP200IA10L
	CN2392	11P SOCKET	KP200IA11L

C CONNECTOR ASSY

OTHERS

	CN2192	11P SOCKET	KP200IA11L
	CN2191	12P SOCKET	KP200IA12L

AV I/O ASSY

SEMICONDUCTORS

	IC1801		BA7230LS
	IC2001		CF72307
	IC2002		CF72416N
	IC1802		CXA1845Q
	IC2003		LC32464P-80
	IC2004		MC34064P
	IC2005		NJM7805FAS
	Q1801, Q1802, Q1807, Q1811-Q1814		2SA1048
	Q1825, Q1831, Q2004, Q2014		2SA1048
	Q1803-Q1806, Q1808-Q1810		2SC2458
	Q1818-Q1824, Q1826, Q1827, Q1829		2SC2458
	Q2002, Q2003, Q2008-Q2010, Q2013		2SC2458
	Q2006		2SD880
	Q1828, Q1830, Q2005, Q2007		DTC124ES
	Q2011, Q2012		DTC124ES
	D1801, D1802, D1804, D1805		HSS104-02
	D1807-D1810, D1812, D1813		HSS104-02
	D1815-D1818, D1820, D1821		HSS104-02
	D1823-D1826, D1828, D1829		HSS104-02
	D1831, D1832, D1834, D1835		HSS104-02
	D1837-D1844, D1846-D1848		HSS104-02
	D1850-D1855, D1858-D1867, D2007		HSS104-02
	D2009, D2010, D2012-D2017		HSS104-02
	D1803, D1806, D1811, D1814, D1819		MTZJ12
	D1822, D1827, D1830, D1833, D1836		MTZJ12
	D1849, D1856, D1857, D1870		MTZJ12
	D2011		MTZJ15
	D2001-D2006		MTZJ6.2
	D1845		RD3.6ESB
	D2008		RD5.1ESB3

Mark	No.	Description	Part No.
COILS			
	L2001, L2002		ATX1008
	L1801, L1803, L1806-L1809		LAU010J
	L2003-L2006		LAU1R5J
	L2007		LAU270J
	L1815		LAU2R2J
	L1804, L1805, L1813, L1814		LAU560K
CAPACITORS			
	C2011, C2012		CCCCH150J50
	C2005		CCCCH180J50
	C2039		CCCCH181J50
	C2008, C2013		CCCSL221J50
	C1845-C1848, C2022		CEAS010M50
	C1876		CEAS100M50
	C1837, C1838, C2003, C2009, C2015		CEAS101M10
	C2018, C2020, C2023, C2026		CEAS101M10
	C2028, C2029, C2032		CEAS101M10
	C1856, C1857, C2001		CEAS101M25
	C1818, C1822, C1874		CEAS102M10
	C1824, C1825, C1844, C1863-C1866		CEAS220M50
	C1869, C1870, C1872, C1873, C1879		CEAS220M50
	C2031		CEAS220M50
	C2017		CEAS221M10
	C1881		CEAS222M10
	C1860, C2034		CEAS330M35
	C1826, C1839, C1850, C1880, C2006		CEAS470M25
	C2014, C2030, C2036		CEAS470M25
	C2040, C2041		CEAS470M25
	C1806, C1809, C1810, C1812, C1813		CEAS4R7M50
	C1823, C1829, C1831-C1836		CEAS4R7M50
	C1840-C1843, C1859, C1861		CEAS4R7M50
	C1867, C1868, C1882		CEAS4R7M50
	C1801, C1802, C1804, C1805, C1808		CKCYB222K50
	C1811, C1815, C1820, C1821, C1858		CKCYB222K50
	C1851, C1853-C1855, C1871, C1875		CKCYF103Z50
	C1883, C2033, C2035, C2037, C2038		CKCYF103Z50
	C2007, C2042		CKCYF223Z50
	C1849, C2002, C2004, C2010, C2016		CKCYF473Z50
	C2019, C2021, C2024, C2025, C2027		CKCYF473Z50
RESISTORS			
	R1873, R1877		RD1/2PM101J
	R1959, R2031		RD1/2PM221J
	R2029		RD1/2PM2R7J
	R1969		RD1/2PMFL390J
	R2006		RS1LMF3R9J
	R2001		RS3LMF5R6J
		Other Resistors	RD1/4PU□□□J
OTHERS			
		PIN JACK(9P)	AKB1232
	CN1802	CONNECTOR	AKP1003
		HEAT SINK M	ANH-697
	X2001	CRYSTAL RESONATOR	ASS1081
		SCREW	BBZ30P080FMC
	CN1813	11P PLUG	KM200IA11
	CN1812	12P PLUG	KM200IA12
	CN1811	PLUG 10-P	KM250MA10
	CN2001	13P PLUG	KM250NA13L
	CN1814, CN1815	PLUG 15-P	KM250NA15L

FRONT CONTROL ASSY

Mark	No.	Description	Part No.
SEMICONDUCTORS			
	IC3901		PD5136
	Q3904		2SA1048
	Q3901-Q3903		2SC2458
	D3909		AEL1152
	D3904-D3907, D3910, D3911		HSS104-02
	D3901, D3902		MTZJ15
	D3903		MTZJ3.0
	PC3901		U5C-08SC
SWITCHES			
	S3901-S3909, S3911		ASG1034
CAPACITORS			
	C3913		CCCSL121J50
	C3907, C3908		CCDSL221J50
	C3914		CEAS101M10
	C3911		CEAS2R2M50
	C3912		CEAS330M25
	C3906, C3916		CEAS470M25
	C3902, C3903		CEAS4R7M50
	C3909		CFTXA104J50
	C3915		CKCYB472K50
	C3905, C3910		CKCYF473Z50
RESISTORS			
	R3934		RD1/2PM561J
	R3931		RD1/2PMFL820J
	VR3901	(47kΩ)	ACP1045
		Other Resistors	RD1/4PU□□□J
OTHERS			
	CN3903	PIN JACK(1P)	AKB1062
	CN3902	PIN JACK(1P)	AKB1063
	CN3904	PIN JACK(1P)	AKB1064
	CN3901	SOCKET	AKP1081
		DPO HOLDER	AMR2294
	X3901	CERAMIC OSCILLATOR	ASS1043
	X3902	REMOTE RECEIVER UNIT	AXX1023
	CN3905	PLUG 10-P	KM250MA10
	CN3906	PLUG 6-P	KM250MA6B

AV2 ASSY

Mark	No.	Description	Part No.
COILS			
	L2101, L2103		LAU010J
	L2102, L2104		LAU560K
CAPACITORS			
	C2103, C2105		CEAS4R7M50
	C2101, C2104, C2106		CKCYB222K50
	C2102		CKCYF103Z50
RESISTORS			
		All Resistors	RD1/4PU□□□J
OTHERS			
	CN2101	CONNECTOR	AKP1003

S TERMINAL ASSY

CAPACITORS

Mark	No. Description	Part No.
	C2131, C2133	CEAS220M50
	C2132, C2134	CKCYF103Z50

RESISTORS

Mark	No. Description	Part No.
	All Resistors	RD1/4PU□□□J

OTHERS

Mark	No. Description	Part No.
	CN2131 SOCKET	AKP1064

AUDIO ASSY

SEMICONDUCTORS

Mark	No. Description	Part No.
	IC3702	LA4280-P
	IC3703	NJM4558DXP
	IC3701	UPC1853CT-01
	Q3701, Q3702, Q3707	2SA1048
	Q3703, Q3704, Q3706, Q3708-Q3713	2SC2458
	Q3705	2SD1276A
	D3730	AEL1099
	D3702-D3711, D3713, D3715-D3718	HSS104-02
	D3720-D3729, D3731	HSS104-02
	D3712, D3714	MTZJ6.8
	D3701, D3719	RD5.6ESB3
	D3732	RD8.2ESB

COILS

Mark	No. Description	Part No.
	L3701, L3702	ATH1009
	L3705, L3706	LAU560J

SWITCH

Mark	No. Description	Part No.
	S3701	ASH1001

CAPACITORS

Mark	No. Description	Part No.
	C3759, C3760	ACH1284
	C3729, C3736	CCCCH151J50
	C3714	CEAS010M50
	C3703, C3734, C3752, C3753	CEAS100M50
	C3730, C3733	CEAS101M10
	C3732	CEAS101M25
	C3716	CEAS220M50
	C3745	CEAS221M10
	C3743, C3744	CEAS222M35
	C3710, C3713, C3725, C3726	CEAS2R2M50
	C3746, C3747	CEAS2R2M50
	C3721, C3723	CEAS3R3M50
	C3754	CEAS470M25
	C3704, C3758	CEAS471M50
	C3731	CEHAQ100M50
	C3728	CEHAQ470M25
	C3741, C3742	CFTXA124J50
	C3735, C3740	CKCYB102K50
	C3722, C3724	CKCYB152K50
	C3756, C3757	CKCYB222K50
	C3701	CKCYB561K50
	C3702, C3711	CKCYF103Z50
	C3727, C3737-C3739, C3755	CKCYF473Z50
	C3715	CQMA102J50
	C3706	CQMA104J50
	C3707	CQMA222J50
	C3709, C3712	CQMA223J50
	C3708	CQMA681J50
	C3717, C3719	CQMA682J50
	C3705, C3718, C3720	CQMA823J50

RESISTORS

Mark	No. Description	Part No.
	R3739, R3741	RD1/2PM152J
	R3701	RD1/2PM271J
	R3734, R3735	RD1/4PMFL100J
	R3770	RD1/4PMFL220J
	R3730, R3732	RD1/4PMFL2R2J
	OtherResistors	RD1/4PU□□□J

OTHERS

Mark	No. Description	Part No.
	PIN JACK(2P)	AKB1233
	SPEAKER TERMINAL 4-P	AKE1009
	PLATE SPRING	ANG1569
	HEAT SINK	ANH1150
	SCREW	BBZ30P080FCU
	SCREW	BBZ30P080FMC
	CN3703 PLUG 8-P	KM250MA8
	CN3701 4-P PLUG	KM250NA4L
	CN3702 7-P PLUG	KM250NA7L

R CRT DRIVE ASSY

SEMICONDUCTORS

Mark	No. Description	Part No.
	Q2701	2SC4001
	D2701	HSS104-02

COILS

Mark	No. Description	Part No.
	SG2701, SG2702	AEX-019
	L2703	LAU101K
	L2701, L2702	LAU470K

CAPACITORS

Mark	No. Description	Part No.
	C2704 (1000PF, 2kV)	ACG1001
	C2703	ACH-378
	C2701	CEAS101M10
	C2702	CKCYB681K50

RESISTORS

Mark	No. Description	Part No.
	R2705	ACN-225
	R2702	ACN1006
⚠	R2703, R2704	RS3LMF332J
	Other Resistors	RD1/4PU□□□J

OTHERS

Mark	No. Description	Part No.
	CRT SOCKET	AKG1004
	HEAT SINK M3	ANH1409
	CN2702 PLUG 3-P	KM250MA3R
	SCREW	PMB30P100FMC

G CRT DRIVE ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	Q2801		2SC4001
	D2801		HSS104-02

COILS

Mark	No.	Description	Part No.
	SG2801, SG2802		AEX-019
	L2803		LAU101K
	L2801, L2802		LAU470K

CAPACITORS

Mark	No.	Description	Part No.
	C2804	(1000PF, 2kV)	ACG1001
	C2803		ACH-378
	C2801		CEAS101M10
	C2802		CKCYB681K50

RESISTORS

Mark	No.	Description	Part No.
	R2805		ACN-225
	R2802		ACN1006
⚠	R2803, R2804		RS3LMF332J
		OtherResistors	RD1/4PU□□□J

OTHERS

Mark	No.	Description	Part No.
	J2, J3	4P LEAD WITH HOUSING	ADX2175
		CRT SOCKET	AKG1004
		HEAT SINK M3	ANH1409
	CN2802	PLUG 3-P	KM250MA3
		SCREW	PMB30P100FMC

B CRT DRIVE ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	Q2901		2SC4001
	D2901		HSS104-02

COILS

Mark	No.	Description	Part No.
	SG2901, SG2902		AEX-019
	L2903		LAU101K
	L2901, L2902		LAU470K

CAPACITORS

Mark	No.	Description	Part No.
	C2904	(1000PF, 2kV)	ACG1001
	C2903		ACH-378
	C2901		CEAS101M10
	C2902		CKCYB681K50

RESISTORS

Mark	No.	Description	Part No.
	R2905		ACN-225
	R2902		ACN1006
⚠	R2903, R2904		RS3LMF332J
		OtherResistors	RD1/4PU□□□J

OTHERS

Mark	No.	Description	Part No.
		CRT SOCKET	AKG1004
		HEAT SINK M3	ANH1409
	CN2902	PLUG 3-P	KM250MA3B
	CN2903	PLUG 5-P	KM250MA5
		SCREW	PMB30P100FMC

AC IN ASSY

COILS

Mark	No.	Description	Part No.
⚠	L901, L902		ATF1158

CAPACITORS

Mark	No.	Description	Part No.
⚠	C901, C902	(0.22μF, 250V)	ACE1107

RESISTORS

Mark	No.	Description	Part No.
⚠	R901	(2.2MΩ, 1/2W)	ACN-208

OTHERS

Mark	No.	Description	Part No.
	CN902-CN904	PLUG 2-P	AKM1127
	CN901	PLUG 3-P	AKM1128
	H901, H902		AKR1003

Y/C ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC4502		MC14052BCP
	IC4501		MC14053BCP
	Q4504, Q4506, Q4570, Q4571		2SA1048
	Q4575-Q4577		2SA1048
	Q4502, Q4503, Q4505, Q4508-Q4511		2SC2458
	Q4573, Q4574, Q4578		2SC2458
	Q4512-Q4515		DTC124ES
	Q4572		RN1201
	D4501, D4502, D4507-D4510		HSS104-02
	D4571		MTZJ13
	D4505, D4506		MTZJ15

COILS

Mark	No.	Description	Part No.
	L4501		ATG1008
	L4512		LAU1R8J
	L4503		LAU270J
	L4508, L4511, L4513		LAU3R9J
	L4502, L4504, L4505, L4510		LAU470J
	L4507, L4509		LAU8R2J

CAPACITORS

Mark	No.	Description	Part No.
	C4510, C4511		CCCCH151J50
	C4509, C4516		CCCCH181J50
	C4503		CCCCH220J50
	C4517, C4518		CCCCH221J50
	C4505		CCCCH270J50
	C4504		CCCCH560J50
	C4576		CEANP2R2M50
	C4572		CEANP3R3M50
	C4573		CEAS010M50
	C4574		CEAS100M50
	C4570, C4575		CEAS2R2M50
	C4506, C4520, C4529, C4531, C4533		CEAS470M25
	C4501, C4502, C4507, C4508, C4512		CKCYF103Z50
	C4514, C4515, C4519, C4522		CKCYF103Z50
	C4525-C4527, C4532, C4571, C4577		CKCYF103Z50

RESISTORS

Mark	No.	Description	Part No.
		All Resistors	RD1/4PU□□□J

OTHERS

Mark	No.	Description	Part No.
		CABLE HOLDER	AKT1012

D CONNECTOR ASSY

OTHERS

Mark	No. Description	Part No.
	CABLE HOLDER	AKT1012
	CN4953 15P SOCKET	KP200IA15L
	CN4954 5P SOCKET	KP200IA5L

POWER DOWN ASSY

SEMICONDUCTORS

	Q271, Q371	2SA1145
	D273, D373	AEL1099
	D271, D272, D371, D372	HSS104-02

CAPACITORS

	C271, C371	CEANP220M35

RESISTORS

	AllResistors	RD1/4PU□□□J

OTHERS

	CN371 5P SOCKET	KP200IA5L

RELAY DRIVE ASSY

SEMICONDUCTORS

	Q101	2SA1048
	Q102, Q103, Q114, Q180	2SC2458
	D107, D108, D137, D142, D183	HSS104-02
	D188	HSS104-02

CAPACITORS

	C112	CEAS100M50
	C107, C115, C183	CEAS470M25

RESISTORS

	AllResistors	RD1/4PU□□□J

OTHERS

	CN106 8P SOCKET	KP200IA8L

POWER SUPPLY ASSY

SEMICONDUCTORS

Mark	No. Description	Part No.
	IC201, IC301	NJM4558DXP
⚠	IC101, IC102	ON3171
×	Q301, Q302	
	Q107, Q111, Q201	2SA1048
	Q204, Q206, Q305, Q306	2SA1145
	Q108, Q113, Q209, Q310	2SC2458
×	Q303	
×	Q304	
	Q109, Q203	2SC2705
	Q202	2SC3327
⚠	Q205, Q307	2SC3332
	Q210	2SC4256(E)
⚠	Q110, Q112, Q207	2SD1276A
⚠	Q308	2SD1276A
	Q105, Q106	2SD1835
⚠	Q208, Q309	2SD2300(D)
⚠	Q104	2SK1168(A)
⚠	D213, D306	11DF2FD
	D101, D102, D104, D105, D148	1SS145
	D145, D222, D313	AEL1099
	D106	D5SBA60(B)
	D214, D217	ES1F
⚠	D307	ES1F
	D127, D129, D130	FMP-G12S
	D116-D123, D125, D126	HSS104-02
	D139-D141, D182, D186, D187	HSS104-02
	D203-D212, D218, D219	HSS104-02
⚠	D303	HSS104-02
	D304, D305, D312, D318, D319	HSS104-02
	D135	HZS18-1L
	D115, D138, D180, D181	HZS18L
	D103, D134, D136	HZS6B1L
	D124	HZS6C2L
	D215, D216, D309, D310	RD12ESB
	D316, D317	RD12ESB
	D201	RD39ESB4
	D301	RD5.1ESB
×	D302	
	D202	RD5.1ESB2
	D133	RD5.1ESB3
	D128	RL2Z
	D185	RL4Z(A)
×	D308	
	D132	RU4A(A)
	D131	S5688G

COILS

⚠	L101, L102	ATF1158
	L119-L123	ATH-059
	L103	ATH-133
	L124	ATH1046
	L201	ATL1053
	L112, L118	ATX1021
	L104-L111, L114-L117	ATX1023
	L202, L203	LTA152J
	L301	LTA272J

TRANSFORMERS

⚠	T102	ATK1104
⚠	T101	ATT1273
⚠	T201	ATK1045
⚠	T301	ATK1045
⚠×	T302	

RELAYS

⚠	RY101, RY102	ASR1036

CAPACITORS

⚠	C101, C102 (0.22μF, 250V)	ACE1107
⚠	C132 (100pF, 2kV)	ACG-032
	C139, C143	ACG-045
⚠	C110, C111, C113, C114 (0.01μF, 250V)	ACG-501
⚠	C222 (1000pF, 2kV)	ACG1001
⚠	C122 (3300pF, 2kV)	ACG1008
⚠	C323 (680pF, 2kV)	ACG1024
⚠	C119 (4700pF, 2kV)	ACG1028
	C152, C219, C220 (4700pF, 2kV)	ACG1028
⚠	C105, C106, C108, C109 (4700pF, 250V)	ACG7009

Mark	No.	Description	Part No.
	C120		ACH-378
⚠	C228	(10μF, 160V)	ACH1117
	C319	(10μF, 160V)	ACH1117
	C135		ACH1146
	C116, C118		ACH1164
	C312, C317		CCCSL101J50
	C214, C218, C314		CCCSL101K500
	C129, C130, C156, C157, C181		CCCSL221K500
	C117		CCDSL101J50
	C330		CCDSL101K500
	C229		CEANP4R7M100
	C215		CEAS010M100
	C127, C202, C205		CEAS010M50
	C304, C321		CEAS100M50
	C207		CEAS221M16
	C153		CEAS470M25
	C328, C329		CEAS4R7M50
	C148, C217, C306		CEHAQ010M50
	C211, C310		CEHAQ100M2C
	C145, C146, C149, C203, C204		CEHAQ100M50
	C327		CEHAQ100M50
	C305		CEHAQ101M10
	C103		CEHAQ102M25
	C313		CEHAQ220M16
	C325		CEHAQ220M25
	C322		CEHAQ220M2C
	C309		CEHAQ221M10
	C150, C302		CEHAQ221M16
	C138		CEHAQ222M16
	C134		CEHAQ222M35
	C182		CEHAQ222M50
	C213		CEHAQ330M16
	C142		CEHAQ331M35
	C128, C184		CEHAQ332M16
	C133, C137		CEHAQ332M35
	C318		CEHAQ4R7M50
⚠	C324		CFPHW123H3D
	C225		CFPHW153H3D
⚠	C226		CFPMW155J2D
	C221		CFTYA474J50
	C320		CKCYB102K50
	C216		CKCYB102K500
	C301		CKCYB222K50
	C210		CKCYB331K500
	C316		CKCYB392K500
	C308		CKCYB561K50
	C147		CKCYB681K50
	C104, C212, C307, C311		CKCYF103Z50
	C315		CKCYF222Z500
	C140, C141, C144, C151, C201		CKCYF473Z50
	C303, C326		CKCYF473Z50
	C126		CQMA102J50
	C125, C209, C227		CQMA103J50
	C206		CQMA223J50
	C208		CQMA471J50
	C121		CQMA473J50
⚠	C224		CQPA683J200

RESISTORS

Mark	No.	Description	Part No.
⚠	R349		ACN-225
	R247		ACN1011
⚠	R145, R158, R159	(1Ω, 5W)	ACN1032
	R329, R346		RD1/2PM122J
	R328		RD1/2PM152J
	R169		RD1/2PM220J
×	R327		
	R321		RD1/2PM821J
⚠	R126		RD1/2PMFL103J
	R240		RD1/2PMFL103J
	R257		RD1/2PMFL220J
⚠	R252		RD1/2PMFL223J
⚠	R123, R166, R170		RD1/2PMFL470J
	R187, R234		RD1/2PMFL470J
	R336		RD1/2PMFL472J
⚠	R235		RD1/2PMFL473J
	R337		RD1/2PMFL563J
×	R307		
⚠×	R344		
	R232		RD1/4PMFL392J
⚠	R204		RD1/4PMFL3R9J
	R218, R253		RD1/4PMFL3R9J
⚠	R302, R314		RD1/4PMFL3R9J
⚠	R222, R320		RD1/4PMFL470J
	R236, R338		RD1/4PMFL471J
⚠	R348		RN1/2PC3902F
⚠	R347		RN1/2PC4302F
	R340		RN1/2PC7502F
	R121		RN1/4PC1001F
	R134, R136		RN1/4PC1603F
	R156		RN1/4PC2101F
	R157		RN1/4PC2431F
	R133		RN1/4PC3601F
	R122		RN1/4PC8200F
	R239		RS1LMF010J
	R180		RS1LMF272J
	R118		RS1LMF473J
⚠	R326		RS1LMF561J
	R229, R258		RS1LMF822J
⚠	R351		RS1LMFR22J
	R141		RS2LMF223J
⚠	R230		RS3LMF010J
⚠	R241, R245		RS3LMF104J
	R242		RS3LMF104J
⚠	R343		RS3LMF151J
	R209		RS3LMF153J
⚠	R358		RS3LMF822J
	R119, R120		RS3LMFR22J
	R188		RS3LMFR47J
⚠	R341		RS3LMFR47J
⚠	R331		RS3LMFR68J
⚠	R128, R129		RT10PZ150K
×	R306		
×	R308		
×	R311		

Mark	No.	Description	Part No.
×	R312		
×	R316		
⚠×	R317		
⚠×	R318		
×	R319		
	VR201	(470Ω)	ACP1039
	VR101, VR301		VRTS6VS102
×	VR301		
	VR302		VRTS6VS223
		Other Resistors	RD1/4PU□□□J

OTHERS

		SCREW	ABA-234
		RIVET	AEC-441
		MICA SHEET	AEP-056
	CN202	PLUG 3-P	AKM1055
	CN203-CN205	PLUG 6-P	AKM1072
	CN101	PLUG 3-P	AKM1128
	H103, H104, H109-H114		AKR1003
		HEAT SINK M	ANH-697
		HEAT SINK	ANH-880
		HEAT SINK B	ANH1021
		SHIELD CASE	ANH1165
		HEAT SINK	ANH1371
		SCREW	BBZ30P080FCU
		SCREW	BBZ30P080FZK
	CN201	PLUG 10-P	KM200IA10
	CN103	11P PLUG	KM200IA11
	CN302	5P PLUG	KM200IA5
	CN105	8P PLUG	KM200IA8
	CN301	PLUG 5-P	KM250MA5
	CN104	PLUG 9-P	KM250MA9
		SCREW	PBZ30P080FMC
		SCREW	VPZ40P100FMC

DIGITAL ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC4301		CXA1686M
	IC4302		CXD2024AQ
	IC4008		HG62G010R29FB
	IC4005		TA8667F
	IC4006, IC4007		TC35071F
	IC4001		TC74HC4066AF
	IC4009		TC9078F
	Q4005, Q4008, Q4015, Q4018-Q4020		2SA1162
	Q4025, Q4029-Q4032, Q4308, Q4309		2SA1162
	Q4314		2SA1162
	Q4001-Q4004, Q4006, Q4007		2SC2712
	Q4009-Q4014, Q4017, Q4021-Q4024		2SC2712
	Q4027, Q4028, Q4033-Q4036		2SC2712
	Q4301-Q4306, Q4310-Q4313		2SC2712
	Q4315-Q4317		2SC2712
	Q4026		2SK208
	D4001-D4003		1SS352

COILS AND FILTERS

	L4004		ATC1037
	F4021-F4023, F4025, F4301, F4302		ATF1124
	F4304, F4305		ATF1124
	F4003-F4012, F4016-F4019, F4024		ATF1128
	F4027, F4029-F4033		ATF1128
	F4001, F4002, F4013-F4015, F4026		ATF1129
	F4034, F4306-F4308		ATF1129
	F4309-F4311		ATF1178
	L4302		LCTA100J3225
	L4001, L4002, L4007, L4008		LCTA101J3225
	L4301		LCTA151J3225
	L4005		LCTA1R8J3225
	L4303-L4305		LCTA220J3225
	L4003, L4006		LCTA4R7J3225

CAPACITORS

	C4338		CCSQCH090D50
	C4315, C4332, C4353		CCSQCH100D50
	C4033		CCSQCH101J50
	C4078, C4082		CCSQCH102J50
	C4339		CCSQCH120J50
	C4003-C4006, C4017, C4019		CCSQCH121J50
	C4053, C4054, C4057, C4060		CCSQCH121J50
	C4354-C4356		CCSQCH180J50
	C4043		CCSQCH181J50
	C4045, C4079, C4080, C4083		CCSQCH221J50
	C4326		CCSQCH330J50
	C4046, C4049, C4313		CCSQCH390J50
	C4018		CCSQCH820J50
	C4322		CEAS221M10
	C4034, C4350		CEV010M50
	C4325		CEV100M16
	C4020		CEV100M50
	C4002, C4010, C4040, C4047, C4055		CEV101M6
	C4062, C4067, C4071, C4075, C4301		CEV101M6
	C4310, C4327, C4331, C4345		CEV101M6

Mark	No.	Description	Part No.
	C4012, C4016, C4031		CEV220M16
	C4015, C4026, C4028, C4038, C4044		CEV470M16
	C4303, C4305, C4321, C4335, C4347		CEV470M16
	C4351, C4352		CEV470M16
	C4007, C4008		CEV4R7M50
	C4343		CEVR22M50
	C4330		CKCYF223Z50
	C4333		CKSQYB473K50
	C4024		CKSQYB822K50
	C4336, C4340		CKSQYF102Z50
	C4304, C4309, C4317, C4337, C4342		CKSQYF103Z50
	C4346, C4348, C4349		CKSQYF103Z50
	C4001, C4009, C4011, C4013, C4014		CKSQYF104Z50
	C4021-C4023, C4025, C4027		CKSQYF104Z50
	C4029, C4030, C4032, C4035-C4037		CKSQYF104Z50
	C4039, C4041, C4042, C4048		CKSQYF104Z50
	C4050-C4052, C4056, C4058, C4059		CKSQYF104Z50
	C4061, C4063-C4066, C4068-C4070		CKSQYF104Z50
	C4072-C4074, C4076, C4077, C4081		CKSQYF104Z50
	C4302, C4306-C4308, C4311, C4312		CKSQYF104Z50
	C4314, C4316, C4318-C4320		CKSQYF104Z50
	C4323, C4324, C4328, C4329, C4334		CKSQYF104Z50
	C4344		CKSQYF104Z50
	C4341		CKSQYF472Z50

RESISTORS

Mark	No.	Description	Part No.
		All Resistors	RS1/10S□□□J

OTHERS

Mark	No.	Description	Part No.
	CN4001	PLUG 50-P	AKM1126
		DIGITAL ASSY	ANP1826
	X4302	CRYSTAL RESONATOR	ASS1056
	X4301	CERAMIC RESONATOR	ASS1098
	X4303	CRYSTAL RESONATOR (17.734475MHz)	ASS1123
		SCREW	BBZ30P080FZK

7. ADJUSTMENTS

- Adjustment items are described as follows.

7.1 FACTORY ADJ MODE
7.2 WHEN POWER SUPPLY ASSY WAS REPAIRED
7.3 WHEN POWER SUPPLY ASSY WAS REPLACED
7.4 WHEN VIDEO•UCOM ASSY WAS REPAIRED OR REPLACED
7.5 WHEN TUNER ASSY WAS REPAIRED
7.6 WHEN TUNER ASSY WAS REPLACED
7.7 WHEN CONVERGENCE ASSY WAS REPAIRED OR REPLACED
7.8 WHEN R, G OR B CRT DRIVE ASSY WAS REPAIRED OR REPLACED
7.9 WHEN FRONT CONTROL ASSY WAS REPAIRED
7.10 WHEN FRONT CONTROL ASSY WAS REPLACED
7.11 WHEN DIGITAL ASSY WAS REPAIRED OR REPLACED
7.12 WHEN CRT ASSY R, G OR B WAS REPLACED
7.13 WHEN LENS ASSY WAS REPLACED
7.14 WHEN OTHER ASSEMBLIES WERE REPAIRED OR REPLACED
7.5 ANODE VOLTAGE MEASURING METHOD

- When replacing the assemblies, be sure to use an Assy which works completely.
- Characters in parentheses ( ) beside an adjustment point are an abbreviation of the Assy containing that adjustment point.

C	: CONVERGENCE Assy
D	: DIGITAL Assy
F	: FRONT CONTROL Assy
P	: POWER SUPPLY Assy
T	: TUNER Assy
V	: VIDEO•UCOM Assy
VR1	: Focus variable resistor (VR1)

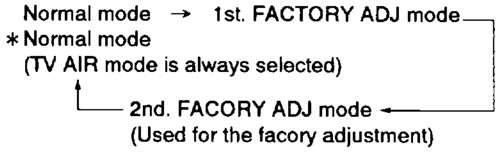
- The adjustment points and test points are shown in Fig. 7-21 and Fig. 7-22 for each Assy.
- A test signal should be input to the AV-3 terminal on the front panel unless otherwise noted.
- Set the AV MEMORY mode to standard unless otherwise noted.

7.1 FACTORY ADJ Mode

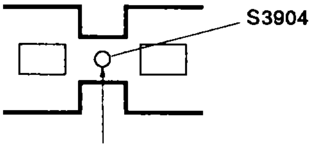
1. Entering FACTORY ADJ mode

The FACTORY ADJ mode of this unit is divided into the 1st. FACTORY ADJ mode for performing adjustments and 2nd. FACTORY ADJ mode used in the manufacturing process of the factory.

Each time the S3904 switch is pressed through the small hole at the center of the front panel with a thin stick, the mode will change cyclically as follows.



Normal mode → 1st. FACTORY ADJ mode
* Normal mode
(TV AIR mode is always selected)
2nd. FACORY ADJ mode
(Used for the facory adjustment)



Push S3904 with thin stick.

2. Operating 1st. FACTORY ADJ Mode

When the unit enters 1st. FACTORY ADJ mode, ADJUSTMENT RANGE mode is first obtained. (when the unit enters 2nd. FACTORY ADJ mode, "– –" appears on the right lower section of the screen.)

By pressing the following keys, the ADJUSTMENT mode can be switched directly.

- MENU key : ADJUSTMENT RANGE mode
- ▼ key : ADJUSTMENT OFFSET mode
- MENU, 🔇, 🔇 keys: ADJUSTMENT GAME mode
- ■ key : ADJUSTMENT IF mode
- ☰ key : ADJUSTMENT MPX mode
- SET key : ADJUSTMENT CONVERGENCE mode
- ☰▶ key : ADJUSTMENT NTSC OFFSET mode
- ◀ key : not used (ADJ AUTO CONVER mode)

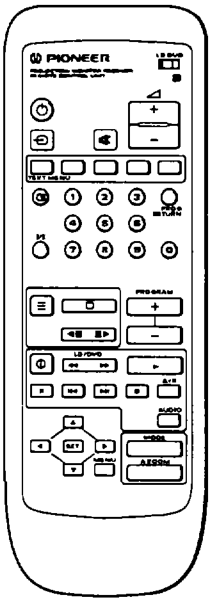


Fig. 7-1 Key indication on the remote control unit

① ADJUSTMENT RANGE mode

This mode is to check how much the picture and sound quality change.

- Function

In this mode, adjustment functions are assigned to the numeric keys 1 through 0 of the remote control unit, as shown in Fig. 7-2. Each numeric key corresponds to a particular adjustment function. Press the numeric key corresponding to the desired function and the selected function name will be displayed. To change the set value, Press the same key repeatedly and the set value will change from CNT to MIN and MAX cyclically. When the following adjustments are selected, the meaning of the set values change as follows :

• 2 : TINT
CNT : Center
↓
MIN : Blue
↓
MAX : Red

• 3 : BALANCE
CNT : Sound output from both channels
↓
MIN : Sound output from Left channel
↓
MAX : Sound output from Right channel

• 9 : Surround mode
OFF
↓
THEATER
↓
STADIUM
↓
S. STEREO

By pressing the numeric keys 7 , 8 and 0 , the VOLUME can be set to the following values.

7 key : VOL20
8 key : VOL30
0 key : VOL0

If the VOLUME set to the other values, release FACTORY ADJ mode, then enter the 1st. FACTORY ADJ mode after the volume adjustment is completed in the normal screen.

② ADJUSTMENT OFFSET mode

This mode is to set the standard picture quality (AV MEMORY) for a normal picture.

- Function

To adjustment picture quality, press one of the keys 1 through 5 , and an item to be adjusted such as COLOR, TINT, CONTR, BRITE, SHARP, assigned to the pressed button is selected and will appear on the screen, as shown in Fig. 7-2. To change the set value, press the ⊿ (VOLUME) + , - keys until the desired value appears on the screen.

The picture quality set in this mode is the standard picture quality which appears by selecting the AV MEMORY mode with a normal picture.

- How to enter the AV MEMORY mode

  Press keys on the remote control unit.

  MENU → ▼ (Select AV MEMORY) → SET

③ ADJUSTMENT GAME mode

This mode is to set the SOFT BRITE (GAME) in the menu of AV MEMORY.

Perform the setting by referring to the setted picture quality in the ADJUSTMENT OFFSET mode.

Normally, set to the following values.

CONTR : − 45 , BRITE : +18
SHARP : − 18 , Others : 0

- Function

The method of adjustment is the same as that of ② ADJUSTMENT OFFSET mode except for the set values.

④ ADJUSTMENT IF mode

This mode is to adjust IF of tuner section.

- Function

select the adjustment items by pressing 1 or 2 key of the remote control unit.

Set the desired set value by pressing the ⊿(VOLUME) + or - key.

⑤ ADJUSTMENT MPX mode

This mode is to adjust the TV tuner MPX decoder section.

- Function

Select the adjustment items by pressing 1 through 7 keys of the remote control unit.

Set the desired set value by pressing the ⊿(VOLUME) + or - key.

⑥ ADJUSTMENT CONVERGENCE mode

This mode is for setting convergence.

For details, see section "7.7.2 CONVERGENCE ADJUSTMENT".

⑦ ADJUSTMENT NTSC OFFSET mode

This mode is for the convergence correction mode when NTSC signal is input.

Adjustment items are RH LIN and BH LIN for each screen size.

Normally, set to the following values.

RH : 5 , BH : − 5

If NTSC signal is input, this NTSC OFFSET value is always added to the adjustment value of convergence in spite of ON/OFF of the FACTORY ADJ mode.

If red or blue lines are shifted against to green line, perform the adjustment.

- Function

Select the adjustment items RH and BH by pressing the PROGRAM + and - keys of the remote control unit.

Set the desired set value by pressing the ⊿(VOLUME) + or - key.

⑧ ADJUSTMENT AUTO CONVER mode

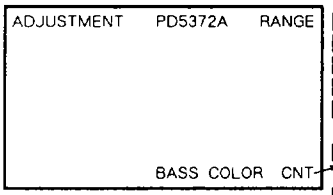
This mode is used in the factory.

If this mode is entered, point convergence value will be initialized to 0 in the all screen modes.

Enter the 1st. FACTORY ADJ mode by pressing S3904

- Press numeric keys on the remote control unit.

① Press MENU key
Mode for checking the change of picture quality, sound quality, etc.
(Telop : Red)

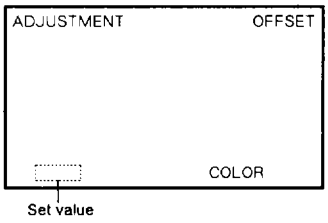

ADJUSTMENT PD5372A RANGE
BASS COLOR CNT

1: BASS COLOR 7: ◀20 IIIIII ••••••
2: TREBLE TINT 8: ◀30 IIIIIIIIIII •
3: BALANCE CONTR 9: OFF
4: BRITE 0: ◀0 ••••••••••
5: SHARP

1 - 5: ┌→CNT → MIN → MAX ┐

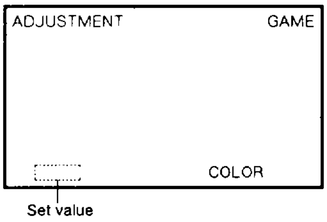
9: ┌→OFF → THEATER → STADIUM → S.STEREO┐

② Press ▼ key
Mode for setting Pioneer's standard
(Telop : Blue)


ADJUSTMENT OFFSET
COLOR
Set value

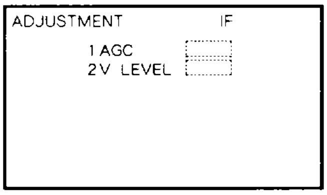
1: COLOR
2: TINT
3: CONTR
4: BRITE
5: SHARP

③ Press MENU, ⊠, ⊠ keys
Mode for setting SOFT BRITE
(Telop : Yellow)


ADJUSTMENT GAME
COLOR
Set value

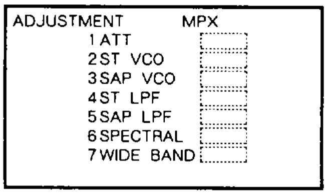
1: COLOR (0) ( ) : Initial value
2: TINT (0)
3: CONTR (- 45)
4: BRITE (+18)
5: SHARP (- 15)

④ Press ■ key
IF adjustment mode
(Telop : Cyan, Selectrion : Red)


ADJUSTMENT IF
1 AGC
2V LEVEL

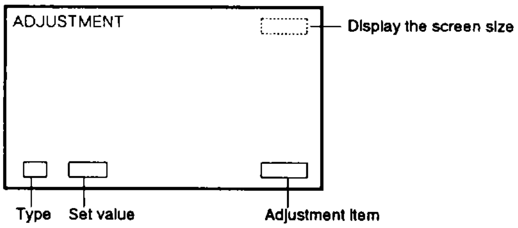
1: AGC adjustment
2: V LEVEL adjustment

⑤ Press ≣ key
MPX adjustment mode
(Telop : Cyan, Selectrion : Red)

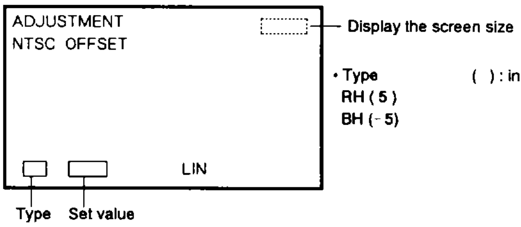

ADJUSTMENT MPX
1 ATT
2ST VCO
3SAP VCO
4ST LPF
5SAP LPF
6SPECTRAL
7WIDE BAND

1: ATT adjustment (9) ( ) : Initial value
2: ST VCO adjustment
3: SAP VCO adjustment
4: ST LPF adjustment
5: SAP LPF adjustment
6: SPECTRAL adjustment
7: WIDE BAND adjustment

⑥ Press SET key
Mode for setting convergence
(Telop : White)


ADJUSTMENT
Display the screen size
Type
Set value
Adjustment item

⑦ Press ⇛ key
Mode for setting convergence at NTSC signal


ADJUSTMENT
NTSC OFFSET
LIN
Display the screen size
Type
Set value

- Type ( ) : initial value
  RH (5)
  BH (- 5)

⑧ Press ▲ key
AUTO CONVER mode
(Telop : White)

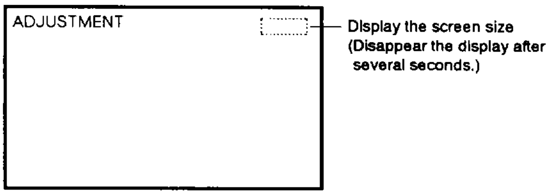

ADJUSTMENT
Display the screen size
(Disappear the display after several seconds.)

Fig.7 - 2 Screen display of FACTORY ADJ mode

7.2 WHEN POWER SUPPLY ASSY WAS REPAIRED

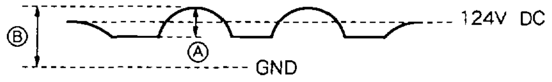
Note : VR301 and VR302 are protected by the shield covers (ANH1166) so that they can not be adjusted. Do not try to turn these volumes by removing their shield cover. (Otherwise, the sensitivity of the protection circuit against the X-ray and the anode voltage will be affected.)

- Adjustment test points (TP) are located in the POWER SUPPLY assy.

7.2.1 Power Supply Section

Step No.	Adjustment Item	Input Signal	Adjustment Point	Adjustment Procedure
1	135V power supply adjustment	Monoscope signal	VR101(P)	Adjust so that the voltage of TP102 (135V) becomes 135V ± 0.5V.

7.2.2 Deflection Section

Step No.	Adjustment Item	Input Signal	Adjustment Point	Adjustment Procedure
1	Focus adjustment	Cross hatch signal	Focus VR (VR1)	• Turn the focus VR for best focusing. • Repeat adjustments for the lens assy and focus VR.
2	Horizontal output level adjustment	Monoscope signal or general broadcasting	VR201(P)	• Set the screen size to full mode. • Observe the cathode of D213 on the POWER SUPPLY assy with an oscilloscope. Adjust VR201 so that the cathode voltage becomes 124V DC, as calculated by equation ①.  Reference : The DC voltage level of the V parabolic wave is equal to two-fifths of waveform Ⓐ Vp-p. Therefore, the voltage is obtained at the waveform's peak value Ⓑ V peak as follows: Equation①.........(Ⓑ − 2/5Ⓐ) = 124V DC Note : When adjusting VR201, VR602 on the CONVERGENCE assy should have been positioned at the midpoint.
3	Horizontal size coarse adjustment	Adjust as described in step 1 in section 7.7.1.		
4	Vertical size coarse adjustment	Adjust as described in step 3 in section 7.7.1.		
5	Convergence adjustment	Cross hatch signal	Adjustment using the remote control unit	• Adjust so that the green cross hatch display normally appears on the screen with only the green CRT drive activated. • Adjust the red line so that it aligns with the green line on the cross hatch screen with the green and CRT drives activated. • Adjust the blue line so that it aligns with the green line on the cross hatch screen with the green and CRT drives activated. Note : For details on the convergence adjustment, see section 7.7.2.
6	White balance adjustment	Adjust as described in step 3 in section 7.4.1.		

7.3 WHEN POWER SUPPLY ASSY WAS REPLACED

Note : As VR301 and VR302 in the POWER SUPPLY assy supplied as a spare part are protected by the shield cover (ANH1166).
Never take off the shield cover (ANH1166).

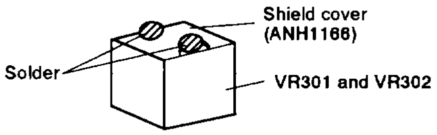


Fig. 7 - 3 Shield cover

7.3.1 Power Supply Section

- No adjustment required.

7.3.2 Deflection Section

- Adjust focus, horizontal size and white balance as described in section 7.2.2.

7.4 WHEN VIDEO•UCOM ASSY WAS REPAIRED OR REPLACED

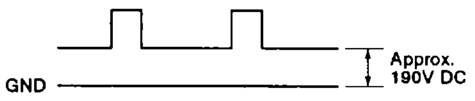
- Adjustment test points (TP) are located in the VIDEO •UCOM assy unless otherwise specified.

Note 1 : When replacing the VIDEO•UCOM assy due to reasons other than a defective memory, remove the non-volatile memory IC3303 (AT24C16-10PC) from the old assy and install it in the new assy.
The convergence data adjusted at the factory is stored in this memory.

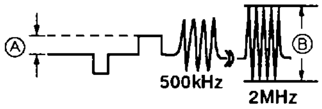
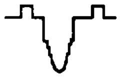
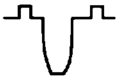
Note 2 : Reset the user settings such as the convergence POSITION adjustment, channel presetting of the tuner, etc.

7.4.1. Adjustment Procedure

- Steps 5 and 6 are separately described in other tables. See sections 7.4.2 and 7.4.3.

Step No.	Adjustment Item		Input Signal	Adjustment Point	Adjustment Procedure
1	Contrast coarse adjustment		—	CONTR (*2)	Note : Perform this adjustment only when a data memory IC (IC3303 : AT24C16- 10PC) on the VIDEO•UCOM assy was replaced or when the contrast of ADJUSTMENT OFFSET mode in FACTORY ADJ mode is extremely shifted. ● Activate ADJUSTMENT OFFSET mode in FACTORY ADJ mode. (Telop : Blue) ● Press the [3] key on the remote control unit to select CONTR. ● Press the ⊿ (VOLUME) [+] or [-] key so that the telop shows about 0.
2	Pioneer's standard settings	Brightness adjustment	Black burst signal	BRITE (*2)	● Adjust the cut off level at TP - GK on the G CRT DRIVE assy to 190V DC. ● Select BRITE by pressing [4] key on the remote control unit in ADJUSTMENT OFFSET mode of FACTORY ADJ mode, and adjust by pressing the ⊿(VOLUME) [+] or [-] key. 
3	White balance adjustment		Color bar signal without color signal	Screen VR(VR1) VR1003(R) } Drive VR (V) VR1002(B)	● Adjust the screen VRs (red or blue) so that the dark part of the screen becomes gray. Do not move the screen VR (green). ● Adjust the drive VRs (red or blue) so that the bright part of the screen becomes white.

*2 : Adjust by remote control unit

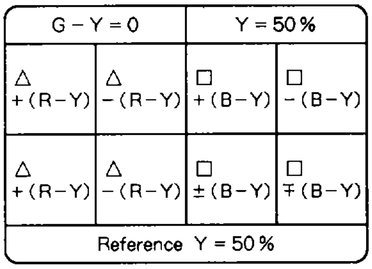
<table>
<tr><th>Step No.</th><th colspan="2">Adjustment Item</th><th>Input Signal</th><th>Adjustment Point</th><th>Adjustment Procedure</th></tr>
<tr><td>4</td><td colspan="2">Test cross H-center position adjustment</td><td>Free video signal</td><td>TC3301 (V)</td><td>● Select the INITIAL SETUP CONVERGENCE in the user's menu.
● Select the screen size to full (4:3 normal) and press the SET key so that the test cross is appeared.
● Adjust the position so that the test cross is placed at the center of the screen.
● Press the SET key twice to select the ADJ OUTER POINT and press SET key again to point convergence screen.
● Confirm that the test cross position of point convergence keep the balance at the right and left. (Confirm that the test cross does not move the outside of screen.)</td></tr>
<tr><td>5</td><td colspan="2">PAL system adjustement</td><td colspan="3">Adjust the glass delay line for PAL demodulator as described in section 7.4.2.
(Adjust for PAL system only.)</td></tr>
<tr><td>6</td><td colspan="2">SECAM system adjustment</td><td colspan="3">Adjust the SECAM IDENT coil, detection coil and BELL FILTER as described in section 7.4.3.
(Adjust for SECAM system only.)</td></tr>
<tr><td>7</td><td rowspan="5">PIONEER Standard setting</td><td>Sharpness adjustment</td><td>Multi burst</td><td>SHARP (*2)</td><td>● Set to SHARP in ADJUSTMENT OFFSET mode of FACTORY ADJ mode, adjust by pressing the ⊿(VOLUME) [+] or [−] key so that the ratio of Ⓐ (the level from black to white) to Ⓑ (peak-to-peak value of 2MHz) at TP1008 (GOUT) on the VIDEO•UCOM assy to Ⓐ : Ⓑ = 5 : 7
Ⓐ : Ⓑ= 5 : 7
 </td></tr>
<tr><td>8</td><td>Color adjustment</td><td>Color bar</td><td>COLOR (*2)</td><td>Adjust screen to the optimum condition.</td></tr>
<tr><td>9
(*3)</td><td>Tint adjustment</td><td>NTSC color bar</td><td>TINT (*2)</td><td>Adjust screen to the optimum condition.</td></tr>
<tr><td rowspan="2">10</td><td rowspan="2">Contrast adjustment</td><td>Color bar</td><td>CONTR (*2)</td><td>Adjust screen to the optimum condition.</td></tr>
<tr><td>Normal video signal</td><td>——</td><td>At the TP-BK of B. CRT DRIVE assy, confirm that the signal is shaped as shown below.
Shapely waveform
Shapeless waveform</td></tr>
<tr><td rowspan="2">11</td><td colspan="2" rowspan="2">Soft brightness setting</td><td colspan="3">● Set to ADJUSTMENT GAME (SOFT BRITE) mode of FACTORY ADJ mode (Telop : Yellow).</td></tr>
<tr><td>Normal color video signal (For setting the numeric value only, no signal is possible.)</td><td colspan="2">Set the telop value (set value) for each adjustment item, as shown below, using a remote control unit.
<table><tr><th>Adjustment Items</th><th>Telop (Set value)</th></tr><tr><td>SHARP</td><td>− 15</td></tr><tr><td>CONTR</td><td>− 45</td></tr><tr><td>BRITE</td><td>+ 18</td></tr><tr><td>Others</td><td>± 0</td></tr></table></td></tr>
</table>

*2: Adjust by remote control.
*3: Adjust for NTSC and NTSC 4.43 only.

7.4.2 PAL System Adjustment

- This adjustment is separated from the table in 7.4.1 as it is to be performed only for the PAL system.
- The adjustment requires the PAL DEMO pattern.
- If the adjustment is not correctly performed, colors change at each scanning line, and this can be judged only by using the PAL DEMO pattern.

Step No.	Adjustment item	Input signal	Adjustment point	Adjustment procedure
1 - 1	Adjustment of glass delay line for PAL demodulator.	PAL DEMO pattern	——	Set oscilloscope as follows : H=2mS/div ; V=100mV/div. Observe the waveforms at pin 60 (R - Y IN) and pin 62 (B - Y IN) of IC1003.
1 - 2			L1006 (V)	Adjust so that the waveform of the measuring area 1 in Fig. 7 - 5 (Fig. 7 - 6 a) appears as shown in Fig. 7 - 6 b.
1 - 3			VR1001 (V)	Adjust so that the waveform of the measuring area 2 in Fig. 7 - 5 appears as shown in Fig. 7 - 6 c.
1 - 4	Repeat steps 1 - 2 and 1 - 3 until the optimum picture is obtained. (Adjust so that the measuring area 1 is set below 50mVp - p, and the measuring area 2 is set below 180mVp - p.)			



G - Y = 0		Y = 50 %	
△ + (R - Y)	△ - (R - Y)	□ + (B - Y)	□ - (B - Y)
△ + (R - Y)	△ - (R - Y)	□ ± (B - Y)	□ ∓ (B - Y)
Reference Y = 50 %			

NOTE ;
△ ; (B - Y) = 0
□ ; (R - Y) = 0

Fig. 7 - 4 PAL DEMO pattern

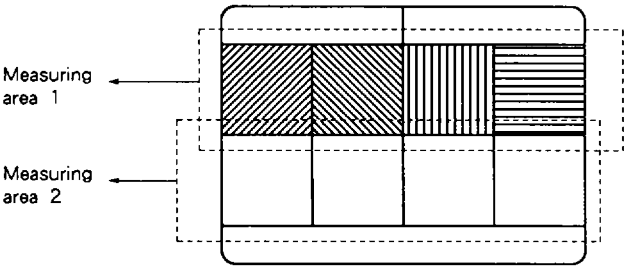
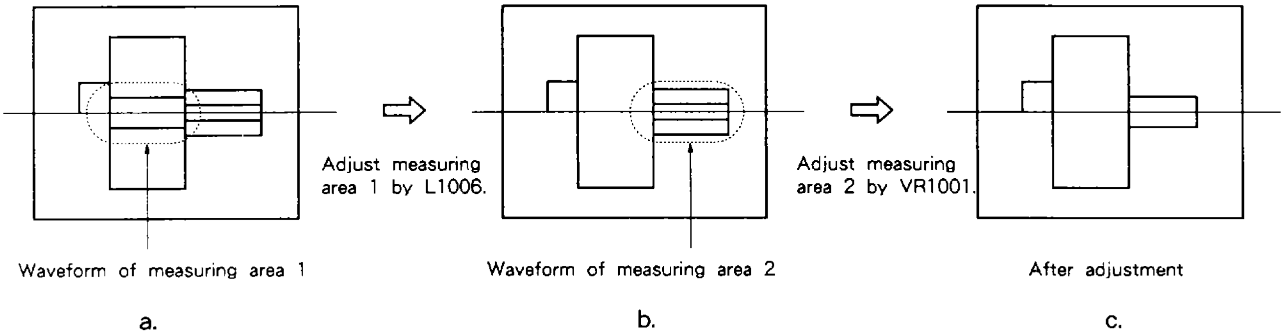


Fig. 7 - 5 Measuring area


Adjust measuring area 1 by L1006.
Adjust measuring area 2 by VR1001.

Waveform of measuring area 1

a.

Waveform of measuring area 2

b.

After adjustment

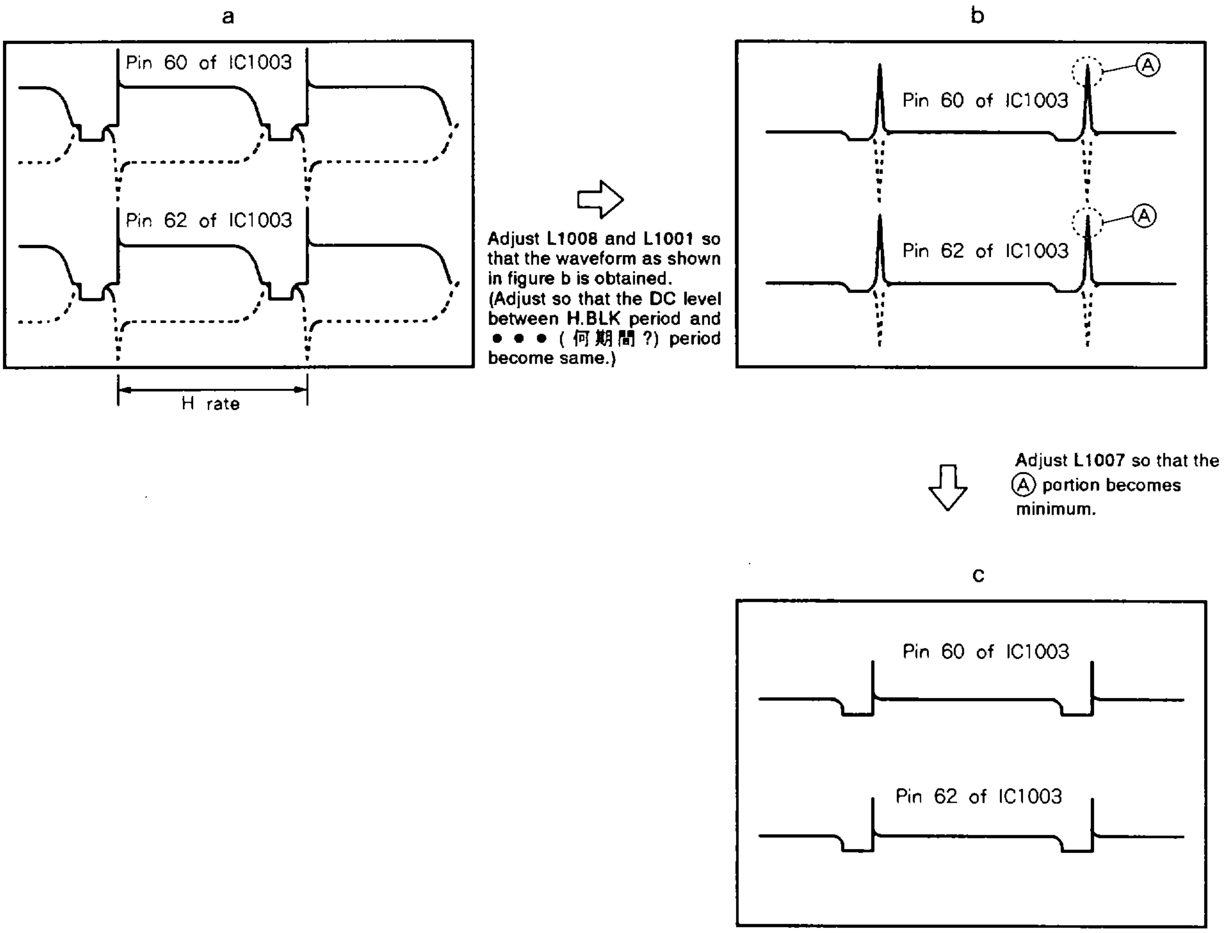
c.

Fig. 7 - 6 Oscilloscope screen

7.4.3 SECAM System Adjustment

- This adjustment is separated as it is to be performed only for the SECAM system.

Step No.	Adjustment item	Input signal	Adjustment point	Adjustment procedure
2-1	SECAM identity adjustment	SECAM color bar	L1010(V)	Adjust so that the DC voltage at pin 23 of IC1003 is maximum.
2-2	Detection coil and Bell filter adjustment	Black signal (including SECAM color carrier)	L1008 (V): Pin 60(R-Y IN) L1001 (V): Pin 62(B-Y IN)	Adjust so that waveform appears as shown in Fig. 7-7 b at pin 60 (R-Y IN) and pin 62 (B-Y IN) of IC1003.
2-3			L1007 (V)	Adjust so that the waveform appears as shown in Fig. 7-7 c at pin 60 (R-Y IN) and pin 62 (B-Y IN) of IC1003.
2-4	Repeat steps 2-2 to2-3 until the optimum picture is obtained. Check to see that the color bars are displayed correctly on the screen after adjustment.			



Adjust L1008 and L1001 so that the waveform as shown in figure b is obtained. (Adjust so that the DC level between H.BLK period and ● ● ● (何期間 ?) period become same.)

Adjust L1007 so that the Ⓐ portion becomes minimum.

Fig. 7-7 SECAM detection coil adjustment

7.5 WHEN TUNER ASSY WAS REPAIRED

- Adjustment test points (TP) are located in the TUNER assy unless otherwise specified.

7.5.1 Tuner Section Adjustment

- The items to be adjusted here depend on the local TV standard systems. The systems for which the adjustments are required are shown in the respective rows of the table.
- For the necessary input signal, see Table 7 - 1. If not mentioned in the table, supply the signals to the antenna input terminal. Observe Fig. 7-10 when connecting.
- When receiving another TV system after performing the adjustments with the specified TV system, the reception condition may become insufficient. In this case, readjust with the current TV system or the best systems specified in Table 7 - 1.
- The trap adjustment in step 1 is separately described in another table. See section 7.5.2.
- This model is not equipped with the AFT (Automatic Fine Tuning) function.

Table 7 - 1

•Values shown for "fp" in the table are the reference values. Set for the nearest frequency and channel of those available in your servicing area.

Signal No.	Signal Contents	Antenna input Level *2	SG system setting *1
①	fp = 175.25MHz , 100% white Audio ; 1kHz, 100% MOD. monoural	80 dBμV	Any of B, G, I, D, K and M (B and G are the best.)
②	fp = 60.50MHz , 100% white Audio ; 400Hz, 70% AM	80 dBμV	L'
③	fp=175.25MHz, Multi burst Audio ; 1kHz, 100% MOD. monaural	58 dBμV	Any of B, G, I, D, K and M (B and G are the best.)
④	fp = 175.25MHz , 100% white Audio ; 400Hz, 70% AM	80 dBμV	L

*1: Set the SG system to the local TV system.

*2:Set the SG audio level to a value lower than the antenna input level by the following value.

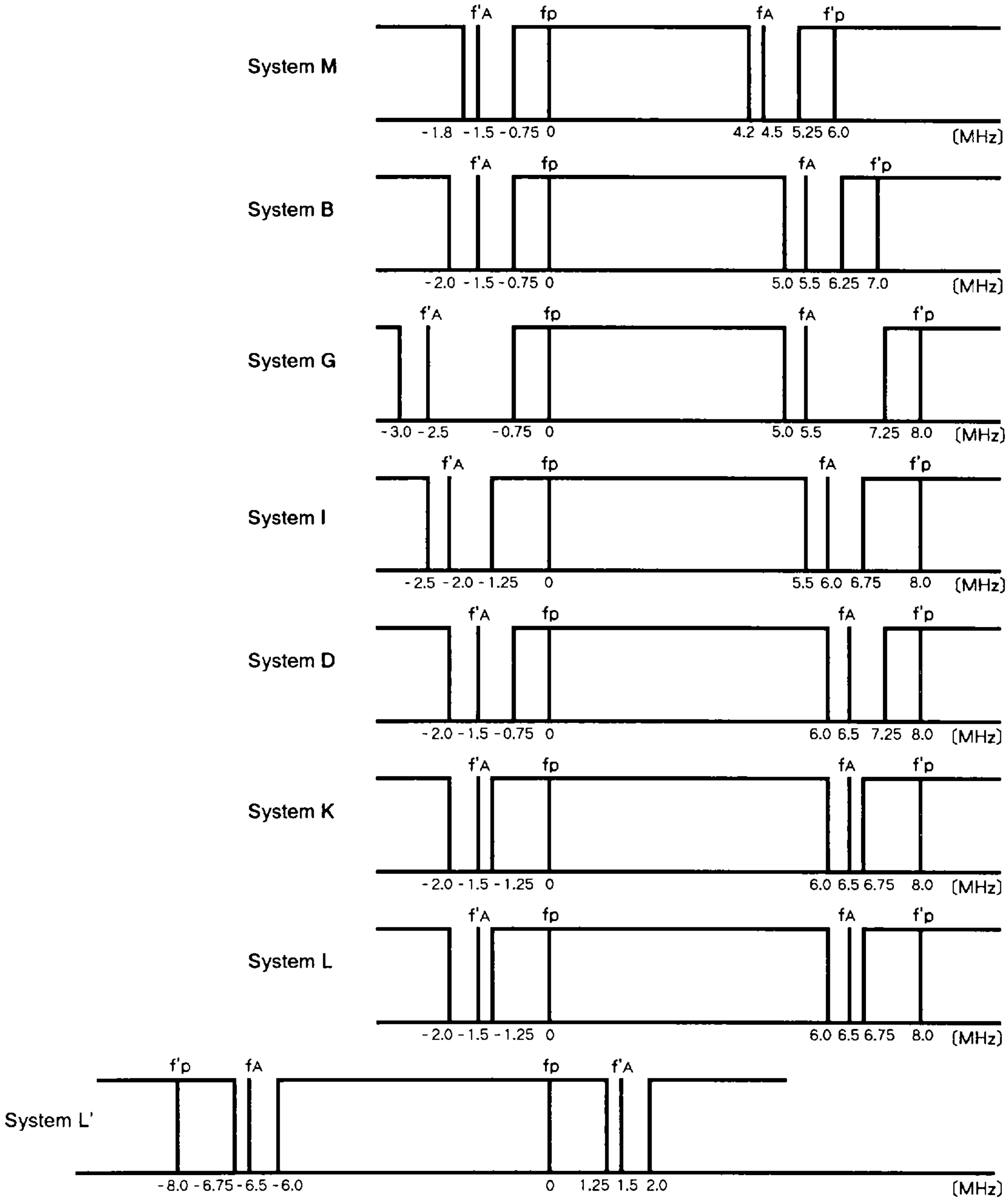
• System M : 6dB , • System B : 10dB , • System G : 10dB , • System I : 7dB , • System D :7dB ,
• System K : 7dB , • System L : 10dB , • System L' : 10dB

Step No.	Adjustment Item	System for Which the Adjustment is Required	Input Signal	Adjustment Point	Adjustment Procedure
1	Trap adjustment	This adjustment depends the local TV system. See section 7.5.2.			
2	VCO free run adjustment	B/G, I, D/K, L, L', M	—	VR1501(T)	● Connect TP1505 (AGC OUT) to GND. Connect pin 19 of IC1501 to +9V via a 1K Ω resistor. ● Adjust so that the DC voltage at pin 26 of IC1501 becomes 4.5V ± 0.1V.
3	VCO adjustment	B/G, I, D/K, L, L', M	①	L1509(T)	Adjust so that the voltage on the + side of C1568 (VAPC) when TP1505 (AGC OUT) is ground is within ± 100mV when TP1505 is opened. (For L' system, perform the adjustment with L system, then adjust in step 4.)
4	VCO adjustment for L' adjustment	L'	②	TC1501(T)	After the step 3 VCO adjustment is complete, switch the system to L' and input signal to ②. Then, perform the same adjustment as step 3.

Step No.	Adjustment Item	System for Which the Adjustment is Required	Input Signal	Adjustment Point	Adjustment Procedure
5	AGC adjustment (* 1)	B/G, I, D/K, L, L', M	③	AGC (* 2)	Adjust the AGC value in the ADJ. IF mode of FACTORY ADJ mode so that the DC voltage of TP1503 (RF AGC) becomes 6.5V ± 0.3V.
6	Video level adjustment	B/G, I, D/K, M	①	VR1502(T)	Adjust so that the video level of TP1513 (VIDEO) becomes 2Vp-p ± 0.1V.
7	Video level adjustment for L and L' system	L, L'	④	V. LEVEL (* 2)	Adjust the V. LEVEL in the ADJ. IF mode of FACTORY ADJ mode so that the video level of TP1513 (VIDEO) becomes 2Vp-p ± 0.1V.
8	FM audio detection adjustment	M	①	L1510(T)	Adjust so that the audio level output to TP1755 (R) or TP1756 (L) becomes maximum and distortion ratio becomes minimum.
9	AM audio detection adjustment	L	④	L1705(T)	Adjust so that the audio level output to TP1755 (R) or TP1756 (L) becomes maximum and distortion ratio becomes minimum.
10	US audio MPX adjustment	M	See section 7.5.3.		

* 1 : When adjusting AGC in the L or L' system area, use SG of M, B, G, I, D or K (SG of B or G is best).
If these items are not adjusted properly, white saturation, noise or beat may be observed on the picture or the picture may be darkened.

* 2 : Adjust by the remote control unit.


System M
f'A
fp
fA
f'p
-1.8 -1.5 -0.75 0
4.2 4.5 5.25 6.0
(MHz)
System B
f'A
fp
fA
f'p
-2.0 -1.5 -0.75 0
5.0 5.5 6.25 7.0
(MHz)
System G
f'A
fp
fA
f'p
-3.0 -2.5 -0.75 0
5.0 5.5 7.25 8.0
(MHz)
System I
f'A
fp
fA
f'p
-2.5 -2.0 -1.25 0
5.5 6.0 6.75 8.0
(MHz)
System D
f'A
fp
fA
f'p
-2.0 -1.5 -0.75 0
6.0 6.5 7.25 8.0
(MHz)
System K
f'A
fp
fA
f'p
-2.0 -1.5 -1.25 0
6.0 6.5 6.75 8.0
(MHz)
System L
f'A
fp
fA
f'p
-2.0 -1.5 -1.25 0
6.0 6.5 6.75 8.0
(MHz)
System L'
f'p
fA
fp
f'A
-8.0 -6.75 -6.5 -6.0
0 1.25 1.5 2.0
(MHz)

NOTE: fp ;Video carrier
fA ;Audio carrier
f'p ;Upper adjacent video carrier
f'A ;Lower adjacent audio carrier
IF ;38.9(MHz)

Fig. 7 – 8 Relationship between the video and audio carrier frequencies of the TV system

7.5.2 Trap Adjustment

- This adjustment is separately described, as the adjustment procedure of the tuner section depends on the TV standard systems.
- For the signal to be input, see Table 7 - 2. Connect the signal to the antenna input terminal.

Table 7 - 2 Input signal

• Use the channel specified for the signal ①.

Input Signal	Video Modulation	Audio Modulation	Input Level	Channel
①	Non-modulation	Non-modulation	80dBμV	Free channel
②				Next higher channel of the signal ①
③				Next lower channel of the signal ①
④	4.43MHz CW or Color-bar			Free channel

Note:Set the SG audio level to a value lower than the antenna input level by the following value.

• System M : 6dB , • System B : 10dB , • System G : 10dB , • System I : 7dB , • System D : 7dB ,
• System K : 7dB , • System L : 10dB , • System L' : 10dB

- **For System M**

Step No.	Adjustment Item	Input Signal	Adjustment Point	Adjustment Procedure
1	Audio trap (WIDE) adjustment	① M	F1502 (T)	Adjust so that the 34.4MHz carrier level of TP1501 (SAW IN) becomes minimum.
2	Audio trap (NARROW) adjustment	① M	F1507 (T)	Adjust so that the 34.4MHz carrier level of TP1501 (SAW IN) becomes minimum.
3	Adjacent audio trap adjustment	③ M	F1513 (T)	Adjust so that the 40.4MHz carrier level of TP1501 (SAW IN) becomes minimum.
4	F1508 adjustment	——	F1508 (T)	Adjust when the video signal is not properly obtained. For adjustment procedure, refer to F1508 adjustment for system B/G.
5	Adjacent video trap adjustment	② M	F1501 (T)	Adjust so that the 32.9MHz carrier level of TP1501 (SAW IN) becomes minimum.
6	Adjacent video trap adjustment for SIF	② M	F1505 (T)	Adjust so that the 32.9MHz carrier level output from F1506 becomes minimum.
7	Adjacent audio trap adjustment for SIF	③ M	F1514 (T)	Adjust so that the 40.4MHz carrier level output from F1506 becomes minimum.

- **For System B/G**

Step No.	Adjustment Item	Input Signal	Adjustment Point	Adjustment Procedure
1	Audio trap (WIDE) adjustment	① B or G	F1502 (T)	Adjust so that the 33.4MHz carrier level of TP1501 (SAW IN) becomes minimum.
2	Audio trap (NARROW) adjustment	① B or G	F1507 (T)	Adjust so that the 33.4MHz carrier level of TP1501 (SAW IN) becomes minimum.
3	Adjacent audio trap adjustment for System B	③ B	F1513 (T)	Adjust so that the 40.4MHz carrier level of TP1501 (SAW IN) becomes minimum.
4	Adjacent audio trap adjustment for System G	③ G	F1508 (T)	Adjust so that the 41.4MHz carrier level of TP1501 (SAW IN) becomes minimum.
5	Adjacent video trap adjustment	② B	F1501 (T)	Adjust so that the 31.9MHz carrier level of TP1501 (SAW IN) becomes minimum.
6	Chroma trap adjustment for SIF	④ B or G	F1505 (T)	Adjust so that the 34.47MHz carrier level output from F1506 becomes minimum.
7	Adjacent audio trap adjustment for SIF	③ B	F1514 (T)	Adjust so that the 40.4MHz carrier level output from F1506 becomes minimum.

- **For System I**

Step No.	Adjustment Item	Input Signal	Adjustment Point	Adjustment Procedure
1	F1502 adjustment	——	F1502 (T)	Adjust when the video signal is not properly obtained. For adjustment procedure, refer to F1502 adjustment for system B/G.
2	F1507 adjustment	——	F1507 (T)	Adjust when the video signal is not properly obtained. For adjustment procedure, refer to F1507 adjustment for system B/G.
3	Adjacent audio trap adjustment	③ I	F1513 (T)	Adjust so that the 40.9MHz carrier level of TP1501 (SAW IN) becomes minimum.
4	F1508 adjustment	——	F1508 (T)	Adjust when the video signal is not properly obtained. For adjustment procedure, refer to F1508 adjustment for system B/G.
5	Audio trap adjustment	① I	F1501 (T)	Adjust so that the 32.9MHz carrier level of TP1501 (SAW IN) becomes minimum.
6	Chroma trap adjustment for SIF	④ I	F1505 (T)	Adjust so that the 34.47MHz carrier level output from F1506 becomes minimum.
7	F1514 adjustment	——	F1514 (T)	Adjust when the video signal is not properly obtained. For adjustment procedure, refer to F1514 adjustment for system B/G.

- **For System D/K**

Step No.	Adjustment Item	Input Signal	Adjustment Point	Adjustment Procedure
1	Audio trap (WIDE) adjustment	① D or K	F1502 (T)	Adjust so that the 32.4MHz carrier level of TP1501 (SAW IN) becomes minimum.
2	Audio trap (NARROW) adjustment	① D or K	F1507 (T)	Adjust so that the 32.4MHz carrier level of TP1501 (SAW IN) becomes minimum.
3	Adjacent audio trap adjustment	③ D or K	F1513 (T)	Adjust so that the 40.4MHz carrier level of TP1501 (SAW IN) becomes minimum.
4	F1508 adjustment	——	F1508 (T)	Adjust when the video signal is not properly obtained. For adjustment procedure, refer to F1508 adjustment for system B/G.
5	Audio trap adjustment	① D or K	F1501 (T)	Adjust so that the 32.4MHz carrier level of TP1501 (SAW IN) becomes minimum.
6	Chroma trap adjustment for SIF	④ D or K	F1505 (T)	Adjust so that the 34.47MHz carrier level output from F1506 becomes minimum.
7	Adjacent audio trap adjustment for SIF	③ D or K	F1514 (T)	Adjust so that the 40.4MHz carrier level output from F1506 becomes minimum.

- **For System L, L'**

Step No.	Adjustment Item	Input Signal	Adjustment Point	Adjustment Procedure
1	Audio trap (WIDE) adjustment	① L	F1502 (T)	Adjust so that the 32.4MHz carrier level of TP1501 (SAW IN) becomes minimum.
2	Audio trap (NARROW) adjustment	① L	F1507 (T)	Adjust so that the 32.4MHz carrier level of TP1501 (SAW IN) becomes minimum.
3	Adjacent audio trap adjustment	③ L	F1513 (T)	Adjust so that the 40.4MHz carrier level of TP1501 (SAW IN) becomes minimum.
4	F1508 adjustment	——	F1508 (T)	Adjust when the video signal is not properly obtained. For adjustment procedure, refer to F1508 adjustment for system B/G.
5	Audio trap adjustment	① L	F1501 (T)	Adjust so that the 32.4MHz carrier level of TP1501 (SAW IN) becomes minimum.
6	Chroma trap adjustment for SIF	④ L	F1505 (T)	Adjust so that the 34.47MHz carrier level output from F1506 becomes minimum.
7	Adjacent audio trap adjustment for SIF	③ L	F1514 (T)	Adjust so that the 40.4MHz carrier level output from F1506 becomes minimum.

7.5.3 US Audio MPX Adjustment

- No adjustment required when replacing the assembly.
- Connection diagram is refered to Fig. 7 - 10.
- Adjustment points and test points are shown in Fig.7 - 21.
- Perform the adjustment by using the channel 9 unless otherwise noted.
- Video and Audio input signals are described in the below.

Ⓝ ; No signal

•Video signal

V①; fp = EIA color bar, 60 dB μV

•Audio signal (STEREO)

dbx noise reduction ON, PRE - EMPHASIS ON

S①; fA = 300Hz, 30% MOD.
L ch (or R ch) only, 54 dB μV

S②; fA = 5kHz, 30% MOD.
L ch (or R ch) only, 54 dB μV

Audio System

Step No.	Adjustment Item	Input Signal		Adjustment Point	Adjustment Procedure
		Video	Audio		
1	STEREO VCO	Ⓝ	Ⓝ	Remote control unit	• Press the numeric key $\boxed{2}$ of the remote control unit for ST VCO adjustment mode. • Measure the R ch output frequency of the OUTPUT REC terminal and adjust with the VOL ⊞ and ⊟ keys so that the frequency becomes closest to the 62.936kHz.
2	SAP VCO	Ⓝ	Ⓝ	Remote control unit	• Connect the TP1653 to +9V via a 4.7 μF capacitor and input the 78.67kHz ; 147 mVrms signal to TP- MPX. • Press the numeric key $\boxed{3}$ of the remote control unit. • Wait until "COMPLETE !" is displayed at part Ⓐ of the screen (see Fig. 7 - 9). • If "TRY AGAIN ! " is displayed, adjust again using the following method. 1. Press the VOL ⊞ and ⊟ keys and adjust so that the value at part Ⓑ of the screen (see Fig. 7 - 9) becomes 25 or 05. 2. Press the VOL ⊟ key slowly once at a time until the value at part Ⓑ of the screen changes from 25 or 05 to a different value. 3. Press the VOL ⊞ key slowly once at a time while counting it until the value at part Ⓑ of the screen changes from 25 or 05 to a different value. 4. Press the VOL ⊟ key for half the number of times counted. 5. If the counted number is odd, subtract 1 from it and press the VOL ⊟ key for half of the resultant number. Note : If the value at part Ⓑ does not become 25 or 05, the value which is not changed when pressing the VOL ⊞ and ⊟ keys regarded it as 25 or 05 . Then adjust above adjustment. (Perform the same adjustment as step 3 and 4.) A, B, C, D, ...; Different Value S ; Same value (25 or 05 or ......) Value at part Ⓑ A, B, C, S, S, S, S, S, D, E, F VOL ⊟ ←——————→ ⊞ VOL Adjustment point
3	STEREO LPF adjustment	Ⓝ	Ⓝ	Remote control unit	• Connect the TP1653 to +9V via a 4.7 μF capacitor and input the 9.4kHz ; 600 mVrms signal to TP- MPX. • Press the numeric key $\boxed{4}$ of the remote control unit. • Wait until "COMPLETE !" is displayed at part Ⓐ of the screen (see Fig. 7 - 9). • If "TRY AGAIN ! " is displayed, adjust again using the following method. 1. Press the VOL ⊞ and ⊟ keys and adjust so that the value at part Ⓑ of the screen (see Fig. 7 - 9) becomes 31. 2. Press the VOL ⊟ key slowly once at a time until the value at part Ⓑ of the screen changes from 31 to a different value. 3. Press the VOL ⊞ key slowly once at a time while counting it until the value at part Ⓑ of the screen changes from 31 to a different value. 4. Press the VOL ⊟ key for half the number of times counted. 5. If the counted number is odd, subtract 1 from it and press the VOL ⊟ key for half of the resultant number.

Step No.	Adjustment Item	Input Signal		Adjustment Point	Adjustment Procedure
		Video	Audio		
4	SAP LPF adjustment	Ⓝ	Ⓝ	Remote control unit	● Connect the TP1653 to +9V via a 4.7 μF capacitor and input the 88kHz ; 120 mVrms signal to TP-MPX. ● Press the numeric key $\boxed{5}$ of the remote control unit. ● Wait until "COMPLETE !" is displayed at part Ⓐ of the screen (see Fig. 7-9). ● If "TRY AGAIN ! " is displayed, adjust again using the following method. 1. Press the VOL $\boxed{+}$ and $\boxed{-}$ keys and adjust so that the value at part Ⓑ of the screen (see Fig. 7-9) becomes 33. 2. Press the VOL $\boxed{-}$ key slowly once at a time until the value at part Ⓑ of the screen changes from 33 to a different value. 3. Press the VOL $\boxed{+}$ key slowly once at a time while counting it until the value at part Ⓑ of the screen changes from 33 to a different value. 4. Press the VOL $\boxed{-}$ key for half the number of times counted. 5. If the counted number is odd, subtract 1 from it and press the VOL $\boxed{-}$ key for half of the resultant number.
5	* Separation adjustment (WIDEBAND)	V①	S①	Remote control unit	● Press the numeric key $\boxed{7}$ of the remote control unit. ● Adjust the output of the OUTPUT REC terminal on the rear panel to minimum level. (Adjust the R ch level becomes minimum at the L ch input and the L ch level becomes minimum at the R ch input.)
6					
7	Repeat step 5 and 6 to obtained best separation.				
8	* Separation adjustment (SPECTRAL)	V①	S②	Remote control unit	● Press the numeric key $\boxed{6}$ of the remote control unit. ● Adjust the output of the OUTPUT REC terminal on the rear panel to minimum level. (Adjust the R ch level becomes minimum at the L ch input and the L ch level becomes minimum at the R ch input.)
9					
10	Repeat steps 8 and 9 to obtained best separation.				
11	Repeat steps 5, 6, 8 and 9 to obtained best separation.				

* : When performing the separation adjustment, be sure to perform WIDE BAND adjustment first.

Note : Adjustment value of "1 ATT " is fixed to 9. If this value is not 9, Adjust so that the value to 9 by using the VOL $\boxed{+}$ and $\boxed{-}$ keys.

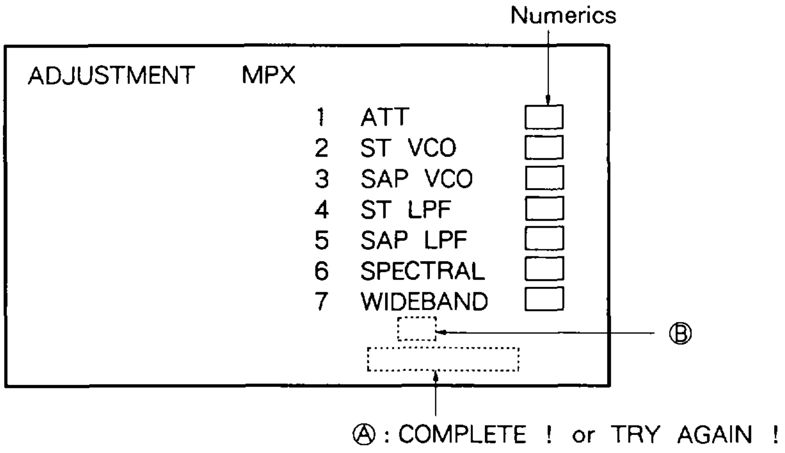
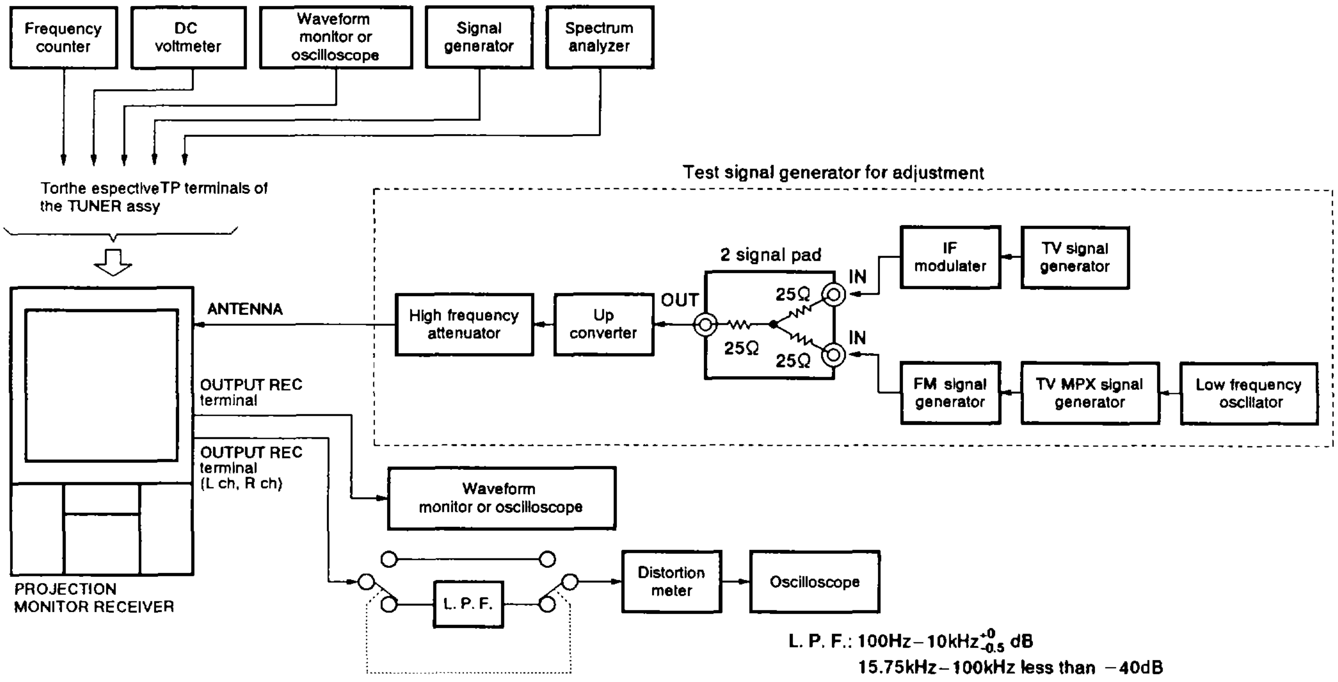


Fig. 7-9 Display of ADJUSTMENT MPX mode screen


Frequency counter
DC voltmeter
Waveform monitor or oscilloscope
Signal generator
Spectrum analyzer
To the respective TP terminals of the TUNER assy
Test signal generator for adjustment
2 signal pad
IN
OUT
IN
25Ω
25Ω
25Ω
IF modulater
TV signal generator
High frequency attenuator
Up converter
FM signal generator
TV MPX signal generator
Low frequency oscillator
ANTENNA
OUTPUT REC terminal
OUTPUT REC terminal (L ch, R ch)
Waveform monitor or oscilloscope
L. P. F.
Distortion meter
Oscilloscope
PROJECTION MONITOR RECEIVER

L. P. F.: $100Hz-10kHz^{+0}_{-0.5}$ dB
15.75kHz–100kHz less than –40dB

Fig. 7-10 Connection diagram when adjusting the tuner section

7.6 WHEN TUNER ASSY WAS REPLACED

- No adjustment required.

Note : For the non-volatile memory on the TUNER assy, use as it is on the new TUNER assy.

7.7 WHEN CONVERGENCE ASSY WAS REPAIRED OR REPLACED

7.7.1 Adjustment Procedure (Coarse adjustment)

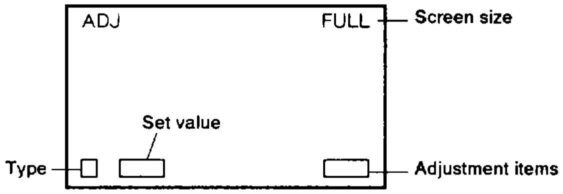
- Adjustment test point(TP)are located in the CONVERGENCE assy.
- Perform this adjustment only when convergence is shifted.

Step No.	Adjustment Item	Input Signal	Adjustment Point	Adjustment Procedure
1	Horizontal size coarse adjustment	Monoscope signal or general broadcasting	VR602 (C)	• Set GH SIZE of ADJ. CONVERGENCE mode in FACTORY ADJ mode to 0. (Full screen size) • Set the screen size to full mode. • When monoscope signal is used, adjust so that the right and left sections of the screen become 92% ± 2%. • When general broadcasting is used, adjust so that the does not blacken.
2	Horizontal pin coarse adjustment	Cross hatch signal	VR601 (C)	• Set the screen size to full mode. • Adjust so that the vertical lines in the right and left sections of the screen are straight. • At this time, when red, green and blue lines are not converged, adjust so that the green line is attentioned.
3	Vertical size coarse adjustment	Monoscope signal or general broadcasting	VR603 (C)	• Set GV SIZE of ADJ. CONVERGENCE mode in FACTORY ADJ mode to 0. (Full screen size) • Set the screen size to full mode. • When monoscope signal is used, adjust so that the upper and lower sections of the screen become 93% ± 2%. • When general broadcasting is used, adjust so that the does not blacken.

7.7.2 CONVERGENCE ADJUSTMENT

1. Adjustment Method for Convergence

- Perform the coarse adjustment (step 1 to 3 in section 7.7.1) before adjust the convergence.
- Perform the adjustment in ADJUSTMENT CONVERGENCE mode in 1st. FACTORY ADJ mode. (Refer to section 7.1.)
- Input a cross-hatch signal (PAL) from the video-signal generator to the video input terminal. For adjustment, use the remote control unit.
- Perform the adjustment by using the PAL signal. When adjusting with the NTSC signal, perform the adjustment after set the set values of the ADJUSTMENT NTSC OFFSET mode in FACTORY ADJ mode to RH LIN=+5 and BH LIN= − 5.
- With this unit, convergence adjustment is required for each screen size : Natural wide, Full, Zoom, and Cinema wide. The normal screen (4 : 3) uses the same circuit as the full screen. Therefore, adjusting the full screen simultaneously adjusts the normal screen.
- Before perform the adjustment, be sure to enter the ADJ. AUTO CONVER mode (for adjustment in the factory) in FACTORY ADJ mode, then perform the adjustment after the adjustment value of user point convergence is cleared.
  If it does not cleared, convergence adjustment will be shifted when releasing the FACTORY ADJ mode.



• Operating procedure

Alphabetics shown in the lower-left portion of the screen indicate the type of convergence. Change the type by pressing the PROGRAM $\boxed{+}$, $\boxed{-}$ keys on the remote control unit. Every time the PROGRAM $\boxed{+}$, $\boxed{-}$ keys are pressed, the type changes in the order

→ RH → RV → BH → BV → GH → GV ┐ cyclically.

The characters to the right of the type indicate the set value, and can be changed with the ◿ (VOLUME) $\boxed{+}$, $\boxed{-}$ keys on the remote control unit.

It the lower-right portion of the screen, the adjustment items are displayed. The items are assigned to the numeric keys from $\boxed{0}$: STATIC to $\boxed{9}$: SUB LIN, on the remote control unit.

• Outputting red, green and blue as a single color

- Press the $\boxed{\text{RED}}$ key on the remote control unit ……………………………… Turn red color ON/OFF.
- Press the $\boxed{\text{GREEN}}$ key on the remote control unit ……………………………… Turn green color ON/OFF.
- Press the $\boxed{\text{BLUE}}$ key on the remote control unit ……………………………… Turn blue color ON/OFF.

To change the displayed color, be sure to press $\boxed{+}$ key. If the next key is pressed without $\boxed{+}$ key, colors are overlaid.

• Type
Select with PROGRAM $\boxed{+}$ or $\boxed{-}$ keys

→ RH (Red • Horizontal)
↓
RV (Red • Vertical)
↓
BH (Blue • Horizontal)
↓
BV (Blue • Vertical)
↓
GH (Green • Horizontal)
↓
GV (Green • Vertical) ┘

• Set value
Adjust the value by pressing the ◿ (VOLUME) $\boxed{+}$ or $\boxed{-}$ keys on the remote control unit.

•Adjustment items
(assigned to the numeric keys)
Example : When the type is RH

$\boxed{0}$: STATIC
$\boxed{1}$: SKEW
$\boxed{2}$: BOW → 4TH BOW ┐
$\boxed{3}$: SUB KEY
$\boxed{4}$: KEY
$\boxed{5}$: SUB PIN → M S PIN → 4 S PIN ┐
$\boxed{6}$: PIN → MID PIN → 4TH PIN ┐
$\boxed{7}$: LIN → 4TH LIN ┐
$\boxed{8}$: SIZE
$\boxed{9}$: SUB LIN

Fig. 7-11 Adjustment method for convergence

• List of Adjustment Items

Numeric keys	Adjustment items	Type					
		GH	GV	RH	RV	BH	BV
0	STATIC	○	○	○	○	○	○
1	SKEW	○	○	○	○	○	○
2	BOW	○	○	○	○	○	○
	4TH BOW	○	/	○	/	○	/
3	SUB KEY	○	○	○	○	○	○
4	KEY	○	○	○	○	○	○
	MID KEY	/	○	/	○	/	○
5	SUB PIN	○	○	○	○	○	○
	M S PIN	○	/	○	/	○	/
	4 S PIN	○	/	○	/	○	/
	S C PIN	/	○	/	○	/	○

Numeric keys	Adjustment items	Type					
		GH	GV	RH	RV	BH	BV
6	PIN	○	○	○	○	○	○
	MID PIN	○	○	○	○	○	○
	4TH PIN	○	○	○	○	○	○
7	LIN	○	○	○	○	○	○
	4TH LIN	○	/	○	/	○	/
8	SIZE	○	○	○	○	○	○
9	SUB LIN	○	○	○	○	○	○

○ = Exists, / =None

- Adjustment values of amount of screen information (horizontal/vertical size) in each screen size (mode).

Input signal : Monoscope (PAL)

	Horizontal size	Vertical size
Natural wide	93% ± 2%	88% ± 3%
Full	92% ± 2%	93% ± 3%
Zoom	91% ± 2%	71% ± 3%
Cinema wide	93% ± 2%	78% ± 3%

- Adjustment values of amount of screen information are refered to PAL signal.
- Amount of screen information in each screen size (mode) at NTSC signal after above adjustment with PAL signal.

Input signal : Monoscope (NTSC) Reference value

	Horizontal size	Vertical size
Natural wide	92%	85%
Full	90%	91%
Zoom	90%	69%
Cinema wide	92%	77%

2. Green Line Adjustment

- A green line is a reference line for the red and blue lines. Be sure to adjust precisely.
- Perform the green line adjustment with a single green color.
- For information on blocks which are referred to in some operation columns, see Fig. 7- 12 and 7-16.

• Horizontal Adjustment of Green Lines

Step No.	Adjustment Item		Adjustment Procedure
1	Center line adjustment	GH-SKEW	Adjust so that the center vertical line of the screen is not leaned.
2		GH-BOW	Adjust so that the center vertical line of the screen is not distorted and is straight.
3		GH-4TH BOW	
4		GH-STATIC	Converge the center vertical line in the green vertical line.
5	Repeat steps 1 through 4 to obtain the optimum center vertical line.		
6	Lean adjustment	GH-SUB KEY	Adjust so that the vertical lines in the B and C blocks of the screen are not leaned.
7		GH-KEY	
8	Repeat steps 6 and 7 to obtain vertical lines that are most perfectly vertical in the B and C blocks of the screen.		
9	Distortion adjustment	GH-M S PIN	Adjust so that the vertical lines in the right and left sections of the screen are not distorted and are straight.
10		GH-SUB PIN	
11		GH-4 S PIN	
12		GH-MID PIN	
13		GH-PIN	
14		GH-4TH PIN	
15	Repeat steps 9 through 14 to obtain straight vertical lines in the right and left sections of the screen.		
16	Repeat steps 6 through 15 to obtain the optimum vertical lines in the right and left sections of the screen.		
17	Line intervals adjustment	GH-4TH LIN	Adjust the intervals of the vertical lines in the right and left sections of the screen and converge them in the green vertical lines.
18		GH-LIN	
19		GH-SIZE	
20		GH-SUB LIN	
21	Repeat steps 17 through 20 to obtain the optimum vertical lines in the right and left sections of the screen.		
22	Fine-adjust over the entire picture to obtain the optimum picture.		

• Vertical Adjustment of Green Lines

Step No.	Adjustment Item		Adjustment Procedure
1	Center line adjustment	GV-SKEW	Adjust so that the center horizontal line of the screen is not leaned.
2		GV-BOW	Adjust so that the center horizontal line of the screen is not distorted and is straight.
3		GV-STATIC	Converge the center horizontal line in the green horizontal line.
4	Repeat steps 1 through 3 to obtain the optimum center horizontal line.		
5	Lean adjustment	GV-MID KEY	Adjust so that the horizontal lines in the D and E blocks of the screen are not leaned.
6		GV-SUB KEY	
7		GV-KEY	
8	Repeat steps 5 and 7 to obtain the horizontal lines that are most perfectly horizontal in the D and E blocks of the screen.		
9	Distortion adjustment	GV-SUB PIN	Adjust so that the horizontal lines in the upper and lower sections of the screen are not distorted and are straight.
10		GV-MID PIN	
11		GV-PIN	
12		GV-S C PIN	
13		GV-4TH PIN	
14	Repeat steps 9 through 13 to obtain straight horizontal lines in the upper and lower sections of the screen.		
15	Repeat steps 5 through 14 to obtain the optimum horizontal lines in the upper and lower sections of the screen.		
16	Line intervals adjustment	GV-LIN	Adjust the intervals of the horizontal lines in the D and E blocks of the screen and converge them in the green horizontal lines.
17		GV-SIZE	
18		GV-SUB LIN	
19	Repeat steps 16 through 18 to obtain the optimum horizontal lines in the upper and lower sections of the screen.		
20	Fine-adjust over the entire picture to obtain the optimum picture.		

3. Red Line Adjustment

- Adjust the red line convergence using a green line and red line.
- Adjust it by overlaying a red line on a green line using the ⊿ (VOLUME) ⊞, ⊟ keys on the remote control unit so that the line becomes yellow.
- After making the adjustments for all items, perform fine adjustment referring to the whole screen.
- For information on blocks which are referred to in some operation columns, see Fig. 7- 12 and 7-16.

• Horizontal Adjustment of Red Lines

Step No.	Adjustment Item		Adjustment Procedure
1	Center line adjustment	RH-SKEW	Adjust so that the center vertical line of the screen is not leaned.
2		RH-BOW	Adjust so that the center vertical line of the screen is not distorted and is straight.
3		RH-4TH BOW	
4		RH-STATIC	Converge the center vertical line in the green vertical line.
5	Repeat steps 1 through 4 to obtain the optimum center vertical line.		
6	Lean adjustment	RH-SUB KEY	Adjust so that the vertical lines in the B and C blocks of the screen are not leaned.
7		RH-KEY	
8	Repeat steps 6 and 7 to obtain vertical lines that are most perfectly vertical in the B and C blocks of the screen.		
9	Distortion adjustment	RH-M S PIN	Adjust so that the vertical lines in the right and left sections of the screen are not distorted and are straight.
10		RH-SUB PIN	
11		RH-4 S PIN	
12		RH-MID PIN	
13		RH-PIN	
14		RH-4TH PIN	
15	Repeat steps 9 through 14 to obtain straight vertical lines in the right and left sections of the screen.		
16	Repeat steps 6 through 15 to obtain the optimum vertical lines in the right and left sections of the screen.		
17	Line intervals adjustment	RH-4TH LIN	Adjust the intervals of the vertical lines in the right and left sections of the screen and converge them in the green vertical lines.
18		RH-LIN	
19		RH-SIZE	
20		RH-SUB LIN	
21	Repeat steps 17 through 20 to obtain the optimum vertical lines in the right and left sections of the screen.		
22	Fine-adjust over the entire picture to obtain the optimum picture.		

• Vertical Adjustment of Red Lines

Step No.	Adjustment Item		Adjustment Procedure
1	Center line adjustment	RV-SKEW	Adjust so that the center horizontal line of the screen is not leaned.
2		RV-BOW	Adjust so that the center horizontal line of the screen is not distorted and is straight.
3		RV-STATIC	Converge the center horizontal line in the green horizontal line.
4	Repeat steps 1 through 3 to obtain the optimum center horizontal line.		
5	Lean adjustment	RV-MID KEY	Adjust so that the horizontal lines in the D and E blocks of the screen are not leaned.
6		RV-SUB KEY	
7		RV-KEY	
8	Repeat steps 5 and 7 to obtain the horizontal lines that are most perfectly horizontal in the D and E blocks of the screen.		
9	Distortion adjustment	RV-SUB PIN	Adjust so that the horizontal lines in the upper and lower sections of the screen are not distorted and are straight.
10		RV-MID PIN	
11		RV-PIN	
12		RV-S C PIN	
13		RV-4TH PIN	
14	Repeat steps 9 through 13 to obtain straight horizontal lines in the upper and lower sections of the screen.		
15	Repeat steps 5 through 14 to obtain the optimum horizontal lines in the upper and lower sections of the screen.		
16	Line intervals adjustment	RV-LIN	Adjust the intervals of the horizontal lines in the D and E blocks of the screen and converge them in the green horizontal lines.
17		RV-SIZE	
18		RV-SUB LIN	
19	Repeat steps 16 through 18 to obtain the optimum horizontal lines in the upper and lower sections of the screen.		
20	Fine-adjust over the entire picture to obtain the optimum picture.		

4. Blue Line Adjustment

- Adjust the blue line convergence using a green line and blue line.
- Adjust it by overlaying a blue line on a green line using the ⊿ (VOLUME) $\boxed{+}$, $\boxed{-}$ keys on the remote control unit so that the line becomes cyan.
- After making the adjustments for all items, perform fine adjustment referring to the whole screen.
- For information on blocks which are referred to in some operation columns, see Fig.7–12 and Fig.7–16.

• Horizontal Adjustment of Blue Lines

Step No.	Adjustment Item		Adjustment Procedure
1	Center line adjustment	BH-SKEW	Adjust so that the center vertical line of the screen is not leaned.
2		BH-BOW	Adjust so that the center vertical line of the screen is not distorted and is straight.
3		BH-4TH BOW	
4		BH-STATIC	Converge the center vertical line in the green vertical line.
5	Repeat steps 1 through 4 to obtain the optimum center vertical line.		
6	Lean adjustment	BH-SUB KEY	Adjust so that the vertical lines in the B and C blocks of the screen are not leaned.
7		BH-KEY	
8	Repeat steps 6 and 7 to obtain vertical lines that are most perfectly vertical in the B and C blocks of the screen.		
9	Distortion adjustment	BH-M S PIN	Adjust so that the vertical lines in the right and left sections of the screen are not distorted and are straight.
10		BH-SUB PIN	
11		BH-4 S PIN	
12		BH-MID PIN	
13		BH-PIN	
14		BH-4TH PIN	
15	Repeat steps 9 through 14 to obtain straight vertical lines in the right and left sections of the screen.		
16	Repeat steps 6 through 15 to obtain the optimum vertical lines in the right and left sections of the screen.		
17	Line intervals adjustment	BH-4TH LIN	Adjust the intervals of the vertical lines in the right and left sections of the screen and converge them in the green vertical lines.
18		BH-LIN	
19		BH-SIZE	
20		BH-SUB LIN	
21	Repeat steps 17 through 20 to obtain the optimum vertical lines in the right and left sections of the screen.		
22	Fine-adjust over the entire picture to obtain the optimum picture.		

• Vertical Adjustment of Blue Lines

Step No.	Adjustment Item		Adjustment Procedure
1	Center line adjustment	BV-SKEW	Adjust so that the center horizontal line of the screen is not leaned.
2		BV-BOW	Adjust so that the center horizontal line of the screen is not distorted and is straight.
3		BV-STATIC	Converge the center horizontal line in the green horizontal line.
4	Repeat steps 1 through 3 to obtain the optimum center horizontal line.		
5	Lean adjustment	BV-MID KEY	Adjust so that the horizontal lines in the D and E blocks of the screen are not leaned.
6		BV-SUB KEY	
7		BV-KEY	
8	Repeat steps 5 and 7 to obtain the horizontal lines that are most perfectly horizontal in the D and E blocks of the screen.		
9	Distortion adjustment	BV-SUB PIN	Adjust so that the horizontal lines in the upper and lower sections of the screen are not distorted and are straight.
10		BV-MID PIN	
11		BV-PIN	
12		BV-S C PIN	
13		BV-4TH PIN	
14	Repeat steps 9 through 13 to obtain straight horizontal lines in the upper and lower sections of the screen.		
15	Repeat steps 5 through 14 to obtain the optimum horizontal lines in the upper and lower sections of the screen.		
16	Line intervals adjustment	BV-LIN	Adjust the intervals of the horizontal lines in the D and E blocks of the screen and converge them in the green horizontal lines.
17		BV-SIZE	
18		BV-SUB LIN	
19	Repeat steps 16 through 18 to obtain the optimum horizontal lines in the upper and lower sections of the screen.		
20	Fine-adjust over the entire picture to obtain the optimum picture.		

5. Picture Movements in Horizontal Adjustments

The adjustments in the horizontal direction are performed by applying the convergence correction signals to the horizontal deflection and changing the amount of the correction. With these adjustments, the vertical lines will move.

This section describes the picture movements and the adjusting points when adjusting each item using a cross hatch signal input.

See Fig. 7 - 12 for reference, in which each of the sections to the right and left to the center vertical line of the screen are divided into three blocks to describe the picture movements.

- Center–line adjustment in the Horizontal Direction

See Table 7-3 for the picture movements and general information on this adjustment.

This adjustment consists of H - SKEW, H - BOW, H - 4TH BOW and H - STATIC to correct the overall picture. Adjust the center vertical line so that it is not distorted and is straight and perfectly vertical.

The center vertical line does not move when adjusting the other items. Use the center vertical line set through this adjustment as reference for the other adjustments. After adjusting the center line, adjust the screen sections to the right and left of the center line.

Note that there may be some deviation in the overall picture if this adjustment is performed alone. Finely adjust the picture with subsequent adjustments.

Caution

Be sure to adjust H - STATIC by changing the data value within the range (010 to - 010) of the telop indication in CONVER ADJ mode of FACTORY ADJ mode. If this range is exceeded, the convergence assembly may be damaged. If the adjustment is not possible within the range of 010 to - 010, set the data value to 0, turn the centering magnet of the deflection yoke and fine - adjust H - STATIC.

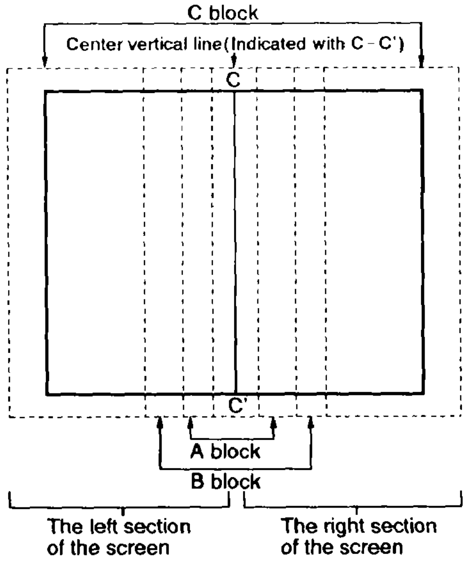
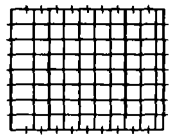
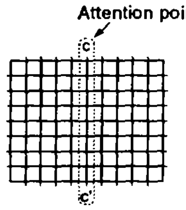
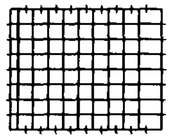
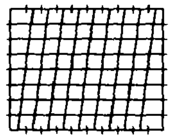
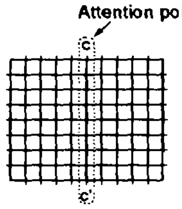
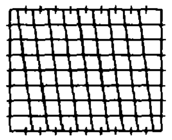
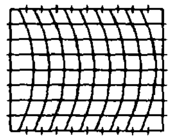
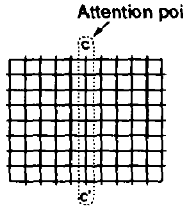
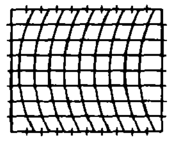
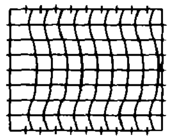
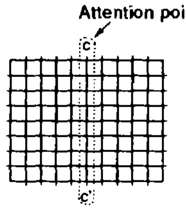
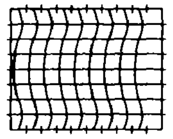

C block
Center vertical line(Indicated with C - C')
C
C'
A block
B block
The left section of the screen
The right section of the screen

Fig. 7–12 Screen Divisions for Horizontal Adjustment

Table 7 - 3 Center - line Adjustment in the Horizontal Direction

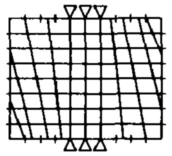
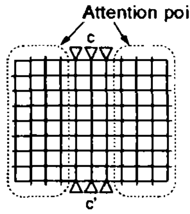
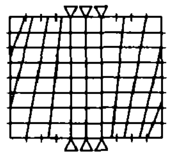
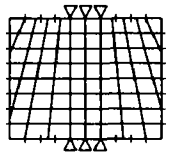
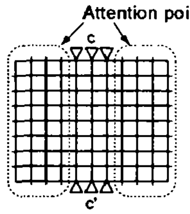
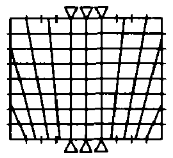
Item	Deviating Picture	Corrected Picture	Deviating Picture	Attention Point on the Screen During Adjustment	Adjustment Point		Remarks
H - STATIC *1				Center vertical line	Move the vertical line at the attention point on the screen shown in the figure to the left to converge it in the green line which has been set for reference. This provides the reference position of the center vertical line for the convergence adjustment.		The overall picture moves in parallel in the same manner as with the user-convergence adjustment.
H - SKEW				Center vertical line	Eliminate the lean at the attention point on the screen shown in the figure to the left.	Adjust H - SKEW, H - BOW, H - 4TH BOW repeatedly until the center vertical line is straight and is perfectly vertical. Adjust H - SKEW and H - 4TH BOW so that the A blocks are in the optimal condition. (The lean and waving distortion in the A blocks cannot be eliminated with the other adjustments.)	The lean of the overall picture is corrected. As shown in the figure to the left, the overall picture is leaned.
H - BOW				Center vertical line	Adjust so that the bowed line at the attention point on the screen shown in the figure to the left is straight.		The bowed lines over the overall screen are corrected. All the vertical lines are bowed as shown in the figure to the left.
H - 4TH BOW				Center vertical line	Adjust so that the wavy line in the attention-point on the screen shown in the figure to the left is straight.		The waving (fourth-order) distortion over the overall screen is corrected. As shown in the figure to the left, the whole picture is distorted in waves.

*1 : H - STATIC can be shifted for convenience while adjusting the other items. Be sure to adjust the other items in consideration of the shift in H - STATIC and then readjust H - STATIC. (Be sure to shift it within the telop indication range of 010 to - 010.)

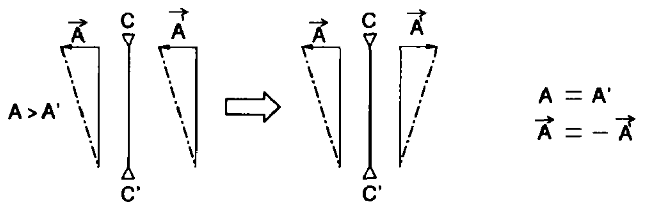
- Lean Adjustment in the Horizontal Direction

See Table 7-4 for the picture movements and general information on this adjustment.
The right and left sections of the screen are corrected with H-SUB KEY and H-KEY. Adjust the lean in the B and C blocks on the screen to eliminate.

Table 7-4 Lean adjustment in the Horizontal direction

Item	Deviating Picture	Corrected Picture Screen	Deviating Picture	Attention Point on the Screen During Adjustment	Adjustment Point		Remarks
H-SUB KEY		⇔  ⇔		B and C blocks	Adjust to eliminate any lean at the attention-point blocks on the screen shown in the figure to the left. If the lean cannot be eliminated, set the screen to the status in which H-KEY has deviation as shown in Fig. 7-13, and adjust H-KEY.	Alternately adjust H-SUB KEY and H-KEY so that the lean in the B and C blocks is eliminated.	The lean in the B and C blocks on the screen is corrected. The right and left sections of the screen move in the same direction.
H-KEY		⇔  ⇔		B and C blocks	Adjust to eliminate the lean in the attention-point blocks on the screen shown in the figure to the left.		The lean in the the B and C blocks on the screen is corrected. The right and left sections move symmetrically in relation to the center line.

Note:
▷——◁ : Line which does not move.



$\vec{A}$ $\vec{A'}$

$A = A'$

$\vec{A} = -\vec{A'}$

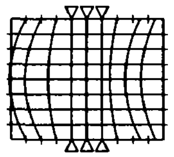
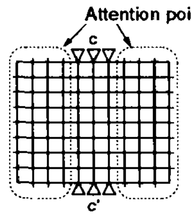
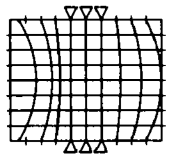
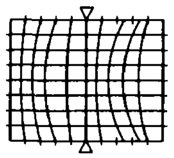
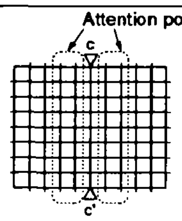
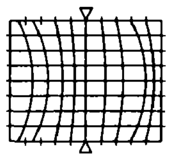
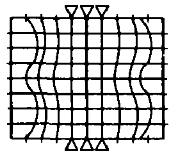
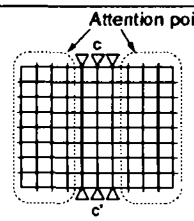
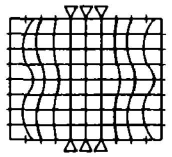
Note:
C ▷——◁ C' : Center vertical line
———— : Reference line
-·-·-·- : Leaned line
$\vec{A}$: Vector of the deviation in the left section of the screen
$\vec{A'}$: Vector of the deviation in the right section of the screen
A : Scalar quantity of the deviation in the left section of the screen
A' : Scalar quantity of the deviation in the right section of the screen

Fig. 7-13 Example of H-SUB KEY

- Distortion Adjustment in the Horizontal Direction (1)

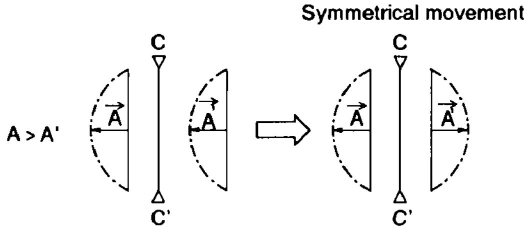
See Table 7-5 for the picture movements and general information on this adjustment.
In this adjustment, the distortion on the screen is corrected with H-M S PIN, H-SUB PIN and H-4 S PIN while moving the right and left sections in the same direction. Adjust them so that the distortion in the right and left sections is eliminated and the vertical lines in both sections are straight. If straight lines cannot be obtained, first set the picture to the status in which it is symmetrically distorted and then adjust H-MID PIN, H-PIN and H-4TH PIN.

Table 7-5 Distortion Adjustment in the Horizontal Direction (1)

Item	Deviating Picture	Corrected Picture	Deviating Picture	Attention Point on the Screen During Adjustment	Adjustment Point		Remarks
H-SUB PIN *1	 ⇔	 ⇔		B and C blocks (Especially C block)	Adjust so that any bowed lines in the attention-point blocks on the screen shown in the figure to the left are straight.	First adjust the A block with H-M S PIN and set the B block to a roughly-adjusted state. Then adjust the B and C blocks with H-SUB PIN. If the B and C blocks are distorted in waves, adjust H-4 S PIN. Repeat these adjustments until the vertical lines in both the left and right sections of the screen are straight. If straight lines cannot be obtained, move the right and left sections symmetrically as shown in Fig. 7-14 in the opposite directions to the same extent and adjust H-MID PIN, H-PIN and H-4TH PIN.	The bowed lines are corrected centering the C block on the screen. As shown in the figure to the left, the lines in the C block move more than those in the B block. The lines in the right and left sections move in the same direction.
H-M S PIN *1	 ⇔	 ⇔		A and B blocks (Especially B block)	Adjust so that any bowed lines in the attention-point blocks on the screen shown in the figure to the left are straight.		The bowed lines are corrected centering the B block on the screen. As shown in the figure to the left, the B block move more than the C block. The right and left sections move in the same direction.
H-4 S PIN	 ⇔	 ⇔		B and C blocks	Adjust so that any wavy lines in the attention-point blocks on the screen shown in the figure to the left are straight.		The wavy lines (fourth-order) are corrected in the B and C blocks on the screen. The right and left sections move in the same direction.

*1 : H-SUB PIN and H-M S PIN work relative to each other. Be sure to adjust them alternately.

Note:
▷——◁ : Line which does not move.



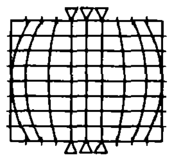
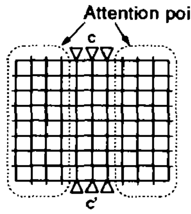
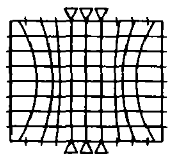
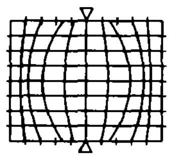
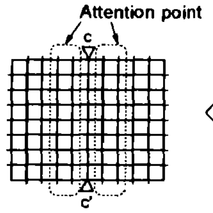
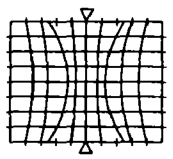
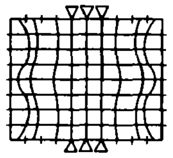
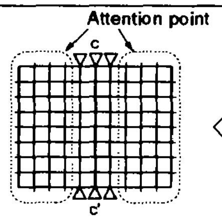
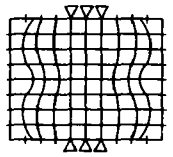
Note:
C▷——◁C' : Center vertical line
—— : Reference line
-·-·-·- : Distorted line
$\vec{A}$: Vector of the deviation in the left section of the screen
$\vec{A'}$: Vector of the deviation in the right section of the screen
A : Scalar quantity of the deviation in the left section of the screen
A' : Scalar quantity of the deviation in the right section of the screen

Fig. 7-14 Example of Distortion Adjustment in the Horizontal Direction

- Distortion Adjustment in the Horizontal Direction (2)

See Table 7-6 for the picture movements and general information on this adjustment.
In this adjustment, the distortion on the screen is corrected with H-MID PIN, H-PIN and H-4TH PIN while moving the right and left sections of the screen symmetrically in relation to the center line. Adjust so that the distortion in the right and left sections is eliminated and the vertical lines in both sections are straight.

Table 7-6 Distortion Adjustment in the Horizontal Direction (2)

Item	Deviating Picture	Corrected Picture	Deviating Picture	Attention Point on the Screen During Adjustment	Adjustment Point		Remarks
H-PIN *1				B and C blocks (Especially C block)	Adjust so that any bowed lines in the attention-point blocks on the screen shown in the figure to the left are straight.	First adjust the A blocks with H-MID PIN and set the B blocks to a roughly-adjusted state. Then adjust the B and C blocks with H-PIN. If there is waving distortion, adjust H-4TH PIN. Repeat these adjustments until the vertical lines in both the left and right sections of the screen are straight.	The bowed lines are corrected centering the C block on the screen. As shown in the figure to the left, the C block move more than the B block. And the right and left sections move symmetrically in relation to the center line.
H-MID PIN *1				A and B blocks (Especially B block)	Adjust so that any bowed lines in the attention-point blocks on the screen shown in the figure to the left are straight.		The bowed lines are corrected centering the B block on the screen. As shown in the figure to the left, the B block move more than the C block. And the right and left sections move symmetrically in relation to the center line.
H-4TH PIN				B and C blocks	Adjust so that any wavy lines in the attention-point blocks on the screen shown in the figure to the left are straight.		The wavy lines (fourth-order) are corrected in the B and C blocks on the screen. As shown in the figure to the left, and the right and left sections move symmetrically in relation to the center line.

*1 : H-PIN and H-MID PIN work relative to each other. Be sure to adjust them alternately.

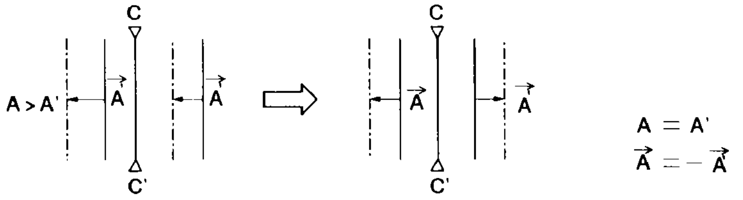
Note:
▷————◁ : Line which does not move.

● Line - Interval Adjustment in the Horizontal Direction

See Table 7-7 for the picture movements and general information on this adjustment.

In this adjustment, the intervals of the vertical lines are corrected with H - 4TH LIN, H - LIN, H - SIZE and H - SUB LIN. Converge the vertical lines in the right and left sections of the screen in the green vertical lines which have been set for reference.

The differences between H - LIN, H - 4TH LIN, H - SIZE and H - SUB LIN are shown in Table 7-8.



Note:

C▷————◁C' : Center vertical line

———— : Reference line

-·-·-·-· : Deviating line

$\vec{A}$: Vector of the deviation in the left section of the screen

$\vec{A}$: Vector of the deviation in the right section of the screen

A : Scalar quantity of the deviation in the left section of the screen

A' : Scalar quantity of the deviation in the right section of the screen

Fig. 7-15 Example of Line - Interval Adjustment in the Horizontal Direction

Table. 7-8 Difference Between Adjustment Items

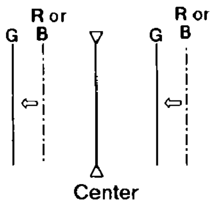
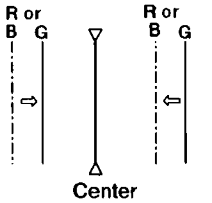
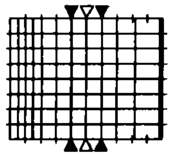
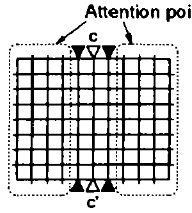
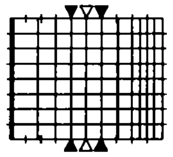
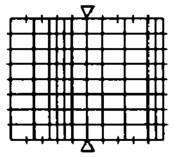
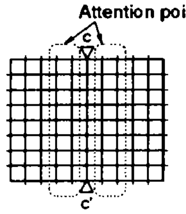
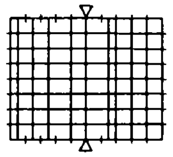
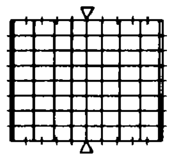
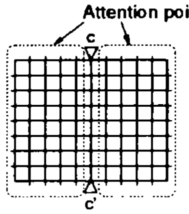
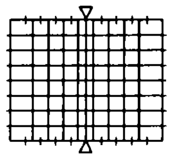
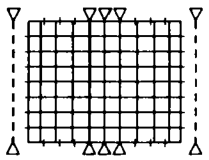
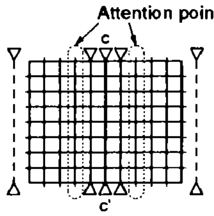
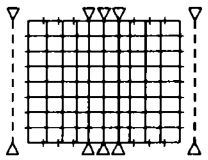
Item	Screen Example	Remarks
H-4TH LIN and H-LIN		H-4 TH LIN and H-LIN should be adjusted when the right and left sections of the screen show deviation in the same direction.
H-SIZE and H-SUB LIN		H-SIZE and H-SUB LIN should be adjusted when the right and left sections of the screen show deviation symmetrically in relation to the center line.

Table 7-7 Line - Interval Adjustment in the Horizontal Direction

Item	Deviating Picture	Corrected Picture	Deviating Picture	Attention Point on the Screen During Adjustment	Adjustment Point		Remarks
H-LIN *1				B and C blocks	Observe the movements with H-SIZE and H-SUB LIN and move the lines in the right and left sections in the opposite directions to the same extent. (See Fig. 7-15.)	First move the lines in the A blocks with H-4TH LIN and then those in the B and C blocks with H-LIN. Adjust them repeatedly until the optimum line intervals are obtained. *2	The line intervals are corrected centering the C block on the screen. As shown in the figure to the left, the lines in the right and left sections of the screen move centering the respective C block.
H-4 TH LIN *1				A and B blocks (Especially B block)	Observe the movements with H-SIZE and H-SUB LIN and move the lines in the right and left sections in the opposite directions to the same extent. (See Fig. 7-15.)		The line intervals are corrected centering the A and B blocks on the screen. As shown in the figure to the left, the lines in the right and left sections of the screen move centering the respective A and B block.
H-SIZE *2				A, B and C blocks	Converge the vertical lines in the green vertical lines which have been set for reference.	Adjust the vertical lines in the right and left sections of the screen with H-SIZE. If the lines cannot be converged in the B blocks, adjust H-SUB LIN.	The line intervals in the right and left sections (A, B and C blocks) of the screen are corrected. As shown in the figure to the left, the line intervals in the right and left sections of the screen change with the center line as the axis.
H-SUB LIN *2				B block	Converge the vertical lines in the attention-point blocks on the screen shown in the figure to the left in the green vertical lines which have been set for reference.		The line intervals in the B block on the screen are corrected. As shown in the figure to the left, the lines in the center of B block of the right and left sections move in the same manner as with H-SIZE.

*1: H-4TH LIN and H-LIN work relative to each other. Be sure to adjust them alternately.

*2: When convergence in the green lines is achieved with H-4TH LIN and H-LIN, further adjustments with H-SIZE and H-SUB LIN are not necessary.

Note:

▷————◁ : Line which does not move at all.

▶————◀ : Line which hardly moves.

▷- - - - - - - -◁ : Line which does not move out of the screen.

6. Picture Movements in Vertical Adjustments

The adjustments in the vertical direction are performed by applying the convergence correction signals to the vertical deviation to change the amount of correction. With these adjustments, the horizontal lines will move.

This section describes the picture movements and the adjusting points when adjusting each item using a cross hatch input.

See Fig. 7-16 for reference, in which each of the sections above and below the center horizontal line of the screen are divided into two blocks to describe the picture movements.

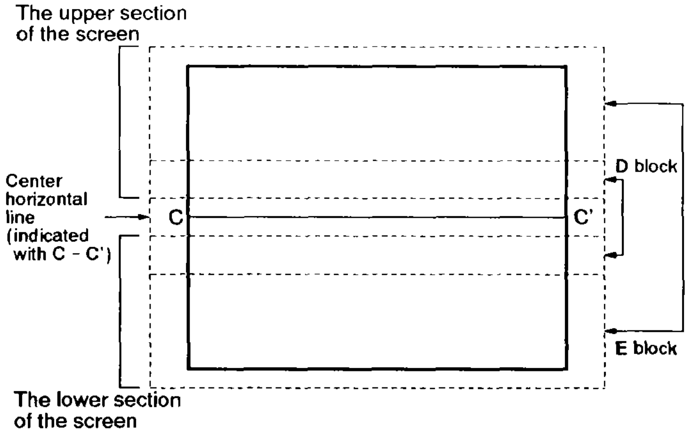

The upper section of the screen
Center horizontal line (indicated with C - C')
C
C'
D block
E block
The lower section of the screen

Fig. 7-16 Screen Divisions for Vertical Adjustments

- Center-line Adjustment in the Vertical Direction

See Table 7-9 for the picture movements and general information on this adjustment.

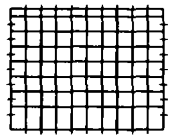
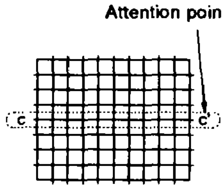
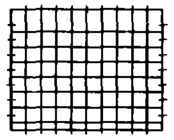
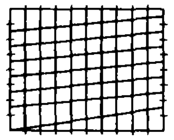
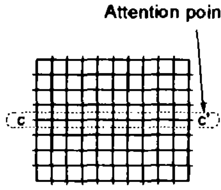
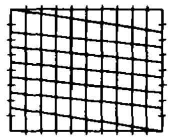
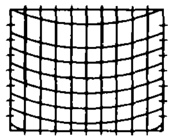
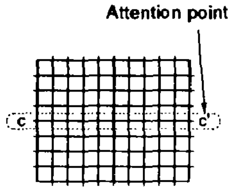
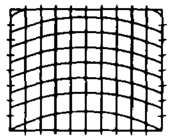
This adjustment consists of V-SKEW, V-BOW and V-STATIC to correct the overall picture. Adjust the center horizontal line so that it is not distorted and is straight and perfectly horizontal. The center horizontal line does not move when adjusting the other items. Use the center horizontal line set through this adjustment as the reference for the other adjustments. After adjusting the center line, adjust the screen sections above and below the center line. Note that there may be some deviation in the overall picture if this adjustment is performed alone. Finely adjust the picture with subsequent adjustments.

Caution

Be sure to adjust V-STATIC by changing the data value within the range (010 to -010) of the telop indication in CONVER ADJ mode of FACTORY ADJ mode.

If this range is exceeded, the convergence assembly may be damaged. If the adjustment is not possible within the range of 010 to -010, set the data value to 0, turn the centering magnet of the deflection yoke and fine-adjust V-STATIC.

Table 7-9 Center-line Adjustment in the Vertical Direction

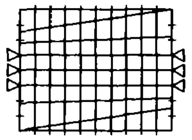
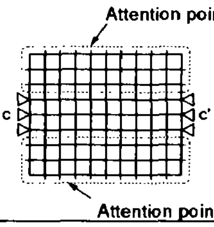
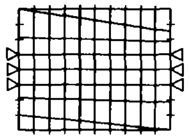
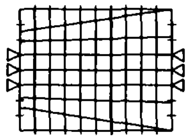
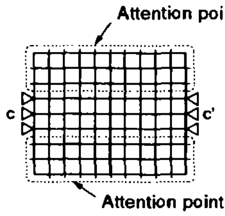
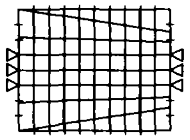
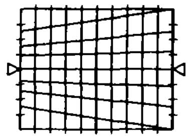
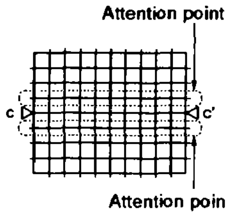
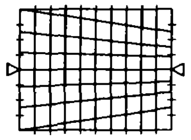
Item	Deviating Picture	Corrected Picture	Deviating Picture	Attention Point on the Screen During Adjustment	Adjustment Point		Remarks
V-STATIC *1		⇔  ⇔		Center horizontal line	Move the horizontal line at the attention point on the screen shown in the figure to the left to converge it in the green line which has been set for the reference. This provides the reference position of the center horizontal line for the convergence adjustment.		The overall picture moves in parallel in the same manner as with the user-convergence adjustment.
V-SKEW		⇔  ⇔		Center horizontal line	Eliminate the lean at the attention point on the screen shown in the figure to the left.	Adjust V-SKEW and V-BOW repeatedly until the center horizontal line is straight and is perfectly horizontal. Be sure to set to the range in which the D blocks can be adjusted with V-MID KEY. (For the D blocks, the distortion cannot be independently adjusted and the lean is eliminated only with V-MID KEY.)	The lean of the overall picture is corrected. As shown in the figure to the left, the overall picture is leaned.
V-BOW		⇔  ⇔		Center horizontal line	Adjust so that the bowed line at the attention point on the screen shown in the figure to the left is straight.		The bowed lines over the screen are corrected. All the horizontal lines are bowed as shown in the figure to the left.

*1: V-STATIC can be shifted for convenience while adjusting the other items. Be sure to adjust the other items in consideration of the shift in V-STATIC and then readjust V-STATIC. (Be sure to shift it within the telop indication range of 010 to -010.)

- Lean Adjustment in the Vertical Direction

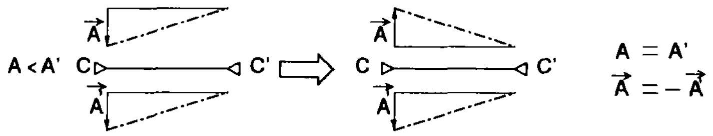
See Table 7-10 for the picture movements and general information on this adjustment.
In this adjustment, lean of the picture is corrected. Adjust V-SUB KEY, V-MID KEY and V-KEY to eliminating any lean in the upper and lower sections of the screen.

Table 7-10 Lean Adjustment in the Vertical Direction

Item	Deviating Picture	Corrected Picture	Deviating Picture	Attention Point on the Screen During Adjustment	Adjustment Point		Remarks
V-SUB KEY				E block	Adjust to eliminate the lean in the attention-point blocks on the screen shown in the figure to the left. If the lean cannot be eliminated, set the screen to the status in which V-KEY has deviation as shown in Fig. 7-17, and adjust V-KEY.	First adjust V-MID KEY so that the lean in the D block is eliminated. Then adjust V-SUB KEY and V-KEY so that the lean in the E block is eliminated. Repeat these adjustments until any lean in the upper and lower sections of the screen is eliminated.	The lean in the E block of the screen is corrected. The lines in the upper and lower sections of the screen move in the same direction.
V-KEY *1				E block	Adjust to eliminate the lean in the attention-point blocks on the screen shown in the figure to the left.		The lean in the E block of the screen is corrected. The upper and lower sections move symmetrically in relation to the center line.
V-MID KEY *1				D block	Adjust to eliminate any lean at the attention-point blocks on the screen shown in the figure to the left.		The lean in the upper and lower sections (D and E blocks) of the screen is corrected. The upper and lower sections move symmetrically in relation to the center line.

*1: V-MID KEY and V-KEY work relative to each other. Be sure to adjust them alternately.

Note:
▷——◁ : Line which does not move.

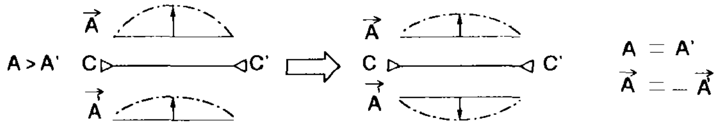


Note:
▷——◁ : Center horizontal line
—— : Reference line
-·-·-·- : Leaned line
$\vec{A}$: Vector of the deviation in the upper section of the screen
$\vec{A'}$: Vector of the deviation in the lower section of the screen
A : Scalar quantity of the deviation in the upper section of the screen
A' : Scalar quantity of the deviation in the lower section of the screen

Fig. 7-17 Example of Vertical Lean Adjustment

- Distortion Adjustment in the Vertical Direction

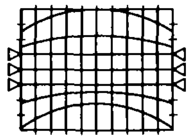
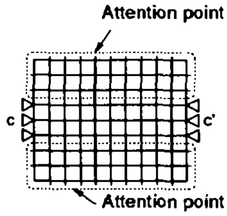
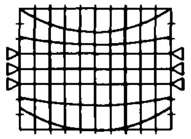
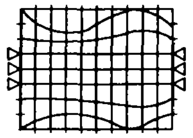
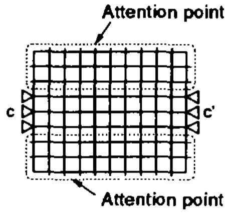
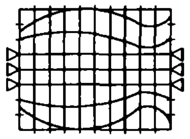
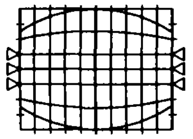
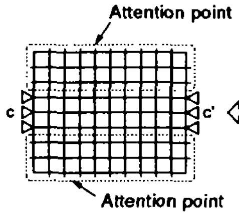
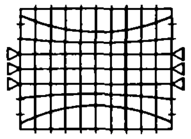
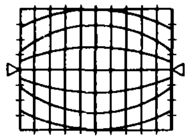
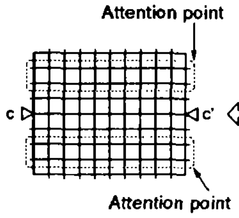
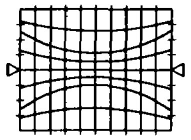
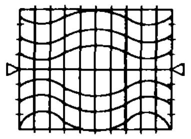
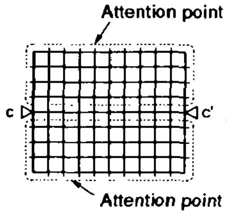
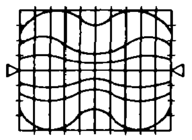
See Table 7-11 for the picture movements and general information on this adjustment.
In this adjustment, distortion on the screen is corrected. While adjusting V-SUB PIN, the upper and lower sections of the screen move in the same direction. While adjusting V-MID PIN, V-PIN, V-S C PIN and V-4TH PIN, the upper and lower sections move symmetrically in relation to the center line. Adjust them so that the distortion in the upper and lower sections of the screen is eliminated and the horizontal lines in both sections are straight.



Note:
C▷————◁C' : Center horizontal line
———— : Reference line
-·-·-·-·- : Distorted line
$\vec{A}$: Vector of the deviation in the upper section of the screen
$\vec{A'}$: Vector of the deviation in the lower section of the screen
A : Scalar quantity of the deviation in the upper section of the screen
A' : Scalar quantity of the deviation in the lower section of the screen

Fig. 7-18 Example of V-SUB PIN Adjustment

Table 7-11 Distortion Adjustment in the Vertical Direction

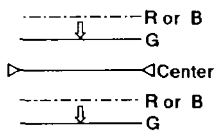
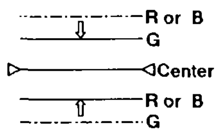
Item	Deviating Picture	Corrected Picture	Deviating Picture	Attention Point on the Screen During Adjustment	Adjustment Point		Remarks
V-SUB PIN				E block	Adjust so that any bowed lines in the attention-point blocks on the screen shown in the figure to the left are straight. If straight lines cannot be obtained, move the upper and lower sections as shown in Fig. 7-18 in the opposite directions to the same extent from the center horizontal line. Adjust with V-PIN so that the lines are straight.		The bowed lines are corrected in the E block of the screen. As shown in the figure to the left, the upper and lower sections move in the opposite directions.
V-S C PIN				E block	Adjust so that any wavy lines in the attention-point blocks on the screen shown in the figure to the left are straight.	First adjust D block with V-MID PIN while setting the center-line side of E blocks to a roughly-adjusted state. Then adjust E block with V-PIN. If there is waving distortion, adjust V-4TH PIN and V-S C PIN. Repeat these adjustments until all the horizontal lines in both upper and lower sections of the screen are straight.	The wavy lines (third-order) are corrected in the E block on the screen. As shown in the figure to the left, the upper and lower sections move symmetrically in relation to the center line.
V-PIN				E block	Adjust so that any bowed lines in the attention-point blocks on the screen shown in the figure to the left are straight.		The bowed lines are corrected in the E block on the screen. As shown in the figure to the left, the upper and lower sections move symmetrically in relation to the center line.
V-MID PIN				D block and the center line side of E block. (Especially the center line side of the E block)	Adjust so that any bowed lines in the attention-point blocks on the screen shown in the figure to the left are straight.		The bowed lines are corrected on the center line side of E block on the screen. As shown in the figure to the left, the upper and lower sections move symmetrically in relation to the center line.
V-4TH PIN				D and E blocks	Adjust so that any wavy lines in the attention-point blocks on the screen shown in the figure to the left are straight.		The wavy lines (fourth-order) are corrected in the upper and lower sections (D and E blocks) of the screen. As shown in the figure to the left, the upper and lower sections move symmetrically in relation to the center line.

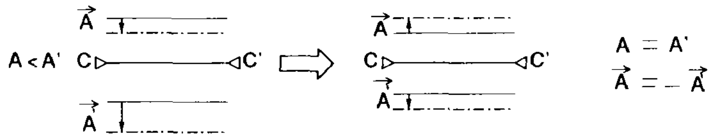
Note:
▷————◁ : Line which does not move at all.

- Line-Interval Adjustment in the Vertical Direction

See Table 7-12 for the picture movements and general information on this adjustment.
In this adjustment, the intervals of the horizontal lines in the upper and lower sections of the screen are corrected with V-LIN, V-SIZE and V-SUB LIN. Converge the horizontal lines in the upper and lower sections of the screen in the green horizontal lines which have been set for reference.
The differences between V-LIN, V-SIZE and V-SUB LIN are shown in Table 7-13.

Table. 7-13 Difference Between Adjustment Items

Item	Screen Example	Remarks
V-LIN		V-LIN should be adjusted when the upper and lower sections of the screen show deviation in the same direction.
V-SIZE and V-SUB LIN		V-SIZE and V-SUB LIN should be adjusted when the upper and lower sections of the screen show the upper and lower sections move symmetrically in relation to the center line.

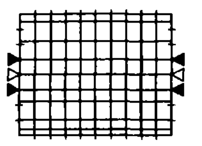
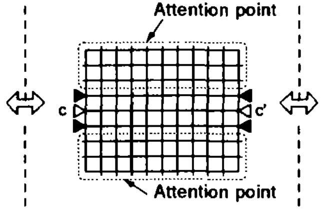
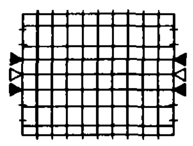
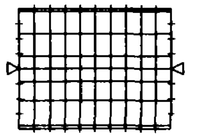
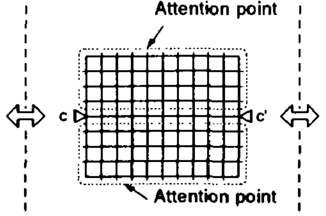
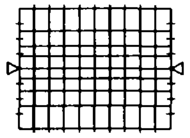
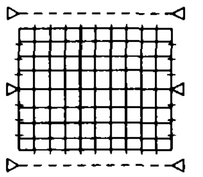
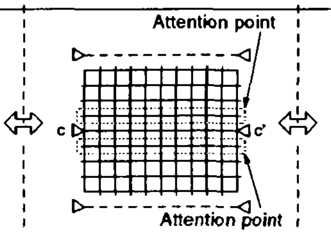
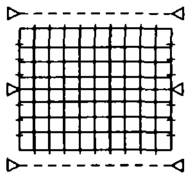

A
A<A'
C
C'
A
A
C
C'
A
A = A'
A = − A

Note:
▷——◁ :Center horizontal line
—— :Reference line
-·-·-· :Deviating line

$\vec{A}$:Vector of the deviation in the upper section of the screen
$\vec{A'}$:Vector of the deviation in the lower section of the screen
A :Scalar quantity of the deviation in the upper section of the screen
A' :Scalar quantity of the deviation in the lower section of the screen

Fig. 7-19 Example of V-LIN Adjustment

Table 7-12 Line-Interval Adjustment in the Vertical Direction

Item	Deviating Picture	Corrected Picture	Deviating Picture	Attention Point on the Screen During Adjustment	Adjustment Point		Remarks
V-LIN				E block	Observe the movements with V-SIZE and V-SUB LIN and move the lines in the upper and lower sections in the opposite directions to the same extent. (See Fig. 7-19.) When the convergence on the green lines is achieved, further adjustments with V-SIZE and V-SUB LIN are not necessary.		The line intervals are corrected centering the D and E blocks on the screen. As shown in the figure to the left, the lines in the upper and lower sections of the screen move centering the respective E block.
V-SIZE				D and E blocks	Converge the horizontal lines in the green horizontal lines which have been set for the reference.	Adjust the horizontal lines in the upper and lower sections of the screen with V-SIZE. If the lines in the D block cannot be converged, adjust V-SUB LIN.	The line intervals in the upper and lower sections (D and E blocks) of the screen are corrected. As shown in the figure to the left, the line intervals in the upper and lower sections of the screen change with the center line as the axis.
V-SUB LIN				D block	Converge the horizontal lines in the attention-point sections in the green horizontal lines which have been set for reference.		The line intervals in the D block on the screen are corrected. As shown in the figure to the left, the lines in the upper and lower sections move centering the respective D block in the same manner as with V-SIZE.

Note:
▷——◁ : Line which does not move at all.
▶——◀ : Line which hardly moves.
▷- - - - - - -◁ : Line which does not move out of screen.

7.8 WHEN R, G OR B CRT DRIVE ASSY WAS REPAIRED OR REPLACED

- White balance ought to provide the best picture.
  If not, adjust the white balance as follows.

Step No.	Adjustment Item	Input Signal	Adjustment Point	Adjustment Procedure
1	White balance adjustment	Color bar signal without color signal	Screen (VR1) VR1003 (R) } Drive VR1002 (B) } VR (V)	● Adjust the screen VRs (red or blue) so that the dark part of the screen becomes gray. Do not move the screen VR (green). ● Adjust the drive VRs (red or blue) so that the bright part of the screen becomes white.

7.9 WHEN FRONT CONTROL ASSY WAS REPAIRED

Step No.	Adjustment Item	Input Signal	Adjustment Point	Adjustment Procedure
1	DPO sensitivity adjustment	——	VR3901 (F)	Note : This adjustment is to set the sensitivity of the DPO sensor. Adjust the value as per the customer's request. The adjusting procedure at the factory is shown below for your reference. ● Illuminate the DPO sensor from the rectangular position to the sensor surface using an incandescent lamp with luminance of 50 lux at the sensor surface. ● Adjust the emitter voltage of Q3903 on the FRONT CONTROL assy becomes 4.6V ± 0.1V. Emitter DC voltage of Q3903 4.6V DC 0V

7.10 WHEN FRONT CONTROL ASSY WAS REPLACED

- No adjustment required.

7.11 WHEN DIGITAL ASSY WAS REPAIRED OR REPLACED

- White balance ought to provide the best picture.
  If not, adjust the white balance as follows.

Step No.	Adjustment Item	Input Signal	Adjustment Point	Adjustment Procedure
1	White balance adjustment	Color bar signal without color signal	Screen (VR1) VR1003 (R) } Drive VR1002 (B) } VR (V)	● Adjust the screen VRs (red or blue) so that the dark part of the screen becomes gray. Do not move the screen VR (green). ● Adjust the drive VRs (red or blue) so that the bright part of the screen becomes white.
2	H. AFC free run adjustment (Adjust only when repairing)	——	L4004 (D)	Adjust so that the frequency of pin 10 of IC4005 becomes 15.73kHz ± 50Hz.

7.12 WHEN CRT ASSY R, G, OR B WAS REPLACED

- The CRT assy R, G, B replacement procedure is described in Section"8. Replacing the CRT assy".
- When one or two tubes are replaced, match the new tubes with the remaining tube. If all three tubes are replaced, first adjust G, and then match the other two tubes with the G tube.

Step No.	Adjustment Item	Input Signal	Adjustment Point	Adjustment Procedure
1	Deflection yoke lean adjustment	Cross signal (or generate a test cross signal for convergence adjustment by applying a free signal)	Deflection yoke mounting position of replaced color (CRT assy) (left and right lean)	Note : This adjustment is required when a CRT assy and deflection yoke were replaced. ● Set the screen size to full mode. ● Loosen the fixing screw of the deflection yoke for the color to be replaced and turn the adjustment point right and left so that the lean parts of the vertical and horizontal lines at the center of the screen align with the lines of a color not replaced. ● After adjustment, tighten the fixing screw for the deflection yoke.
2	Screen center adjustment	Cross signal (or generate a test cross signal for convergence adjustment by applying a free signal)	Centering magnet of the deflection yoke of replaced color (CRT assy) (Refer to Fig. 7-20.)	Note : This adjustment is to adjust the center point of the screen when a CRT assy and deflection yoke were replaced. For red or blue adjustment, turn FACTORY ADJ mode ON and then OFF to place the convergence POSITION at the center of the adjustable range. ● Set the screen size to full mode. ● Move the centering magnet of the deflection yoke for the replaced color so that the horizontal and vertical lines at the center of the screen align with the lines for a color not replaced.
3	Focus VR adjustment	Cross hatch	Focus VR (VR1)	● Turn the focus VR for best focusing. ● Repeat adjustments for the Lens assy and focus VR.
4	Convergence adjustment	Cross hatch	Adjustment using the remote control unit	● Adjust so that the green cross hatch display normally appears on the screen with only the green CRT drive activated. ● Adjust the red line so that it aligns with the green line on the cross hatch screen with the green and CRT drives activated. ● Adjust the blue line so that it aligns with the green line on the cross hatch screen with the green and CRT drives activated. Note : For details on the convergence adjustment, see section "7.7.2. Convergence Adjustment".
5	White balance adjustment	Color bar signal without color signal	Screen VR (VR1) VR1003 (R) } Drive VR VR1002 (B) }	● Adjust the screen VRs (red or blue) so that the dark part of the screen becomes gray. Do not move the screen VR (green). ● Adjust the drive VRs (red or blue) so that the bright part of the screen becomes white.
6	PIONEER standard settings	Adjust as described in steps 7 thru 10 in Section 7.4.1.		

7.13 WHEN LENS ASSY WAS REPLACED

Step No.	Adjustment Item	Input Signal	Adjustment Point	Adjustment Procedure
1	Focus adjustment of lens assy	Cross hatch signal	Lens assy mounted to replaced CRT assy	● Remove the front cover panel (SD-T43w1 only). ● Move the lens assy left and right as shown in Fig. 7-22 until the best focusing is obtained.
2	Convergence adjustment	Cross hatch signal	Adjustment using the remote control unit	● Adjust so that the green cross hatch display normally appears on the screen with only the green CRT drive activated. ● Adjust the red line so that it aligns with the green line on the cross hatch screen with the green and CRT drives activated. ● Adjust the blue line so that it aligns with the green line on the cross hatch screen with the green and CRT drives activated. Note : For details on the convergence adjustment, see section "7.7.2. Convergence Adjustment".

7.14 WHEN OTHER ASSEMBLIES WERE REPAIRED OR REPLACED

- No adjustment required.

7.15 ANODE VOLTAGE MEASURING METHOD

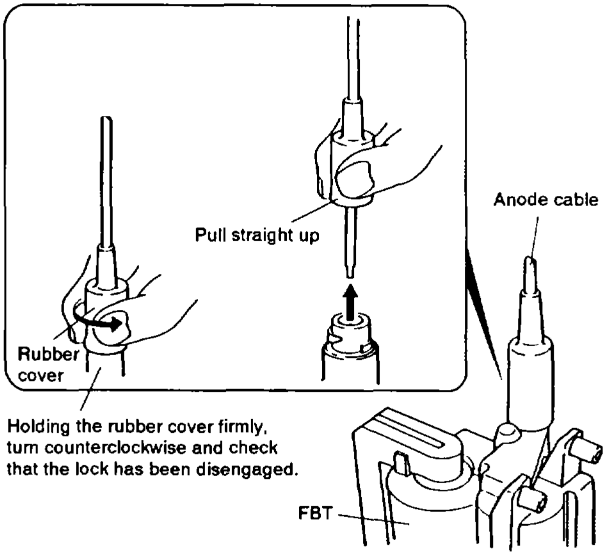
Disconnect the FBT anode cable as outlined in Fig. 7 - 20.
Measure at the point where the cable enters the FBT.

Caution: Take extra precaution when measuring this high voltage. High voltages are also present in surrounding circuit boards (CRT DRIVE assy, POWER SUPPLY assy).

SERVICEMAN WARNING

Before removing the anode cable, turn off the power, unplug the AC plug and let the unit discharge for more than 1 minute.

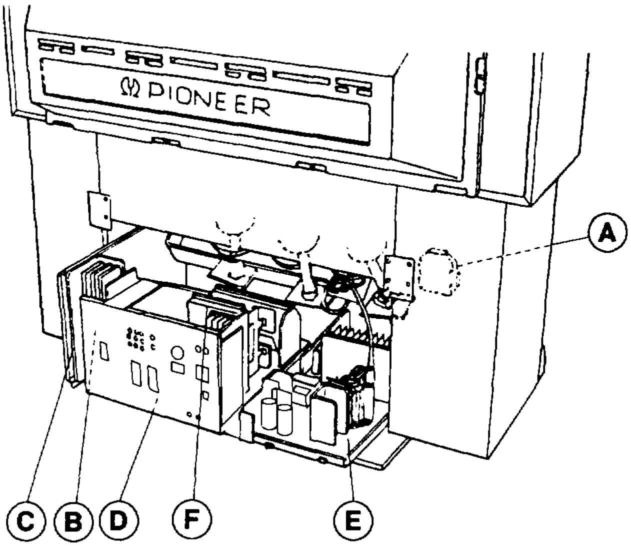
Note:Determine the extent of the rubber cover before disconnecting the cable.



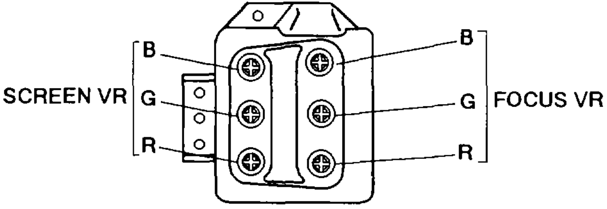
Holding the rubber cover firmly, turn counterclockwise and check that the lock has been disengaged.

Note :When reconnecting the cable, proceed in the reverse order. After reconnecting, tug on the cable to check that it is secure.

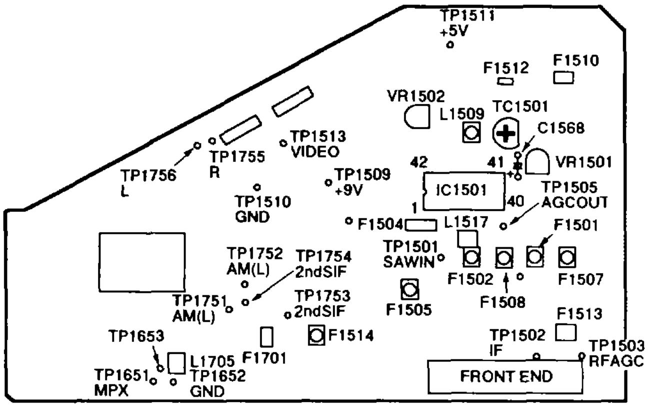
Fig. 7-20 Disconnecting the anode cable


PIONEER
A
C
B
D
F
E

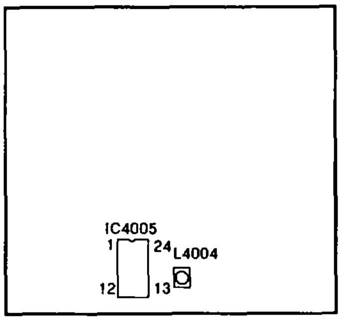
A FOCUS VR (VR1)


SCREEN VR
B
G
R
B
G
R
FOCUS VR

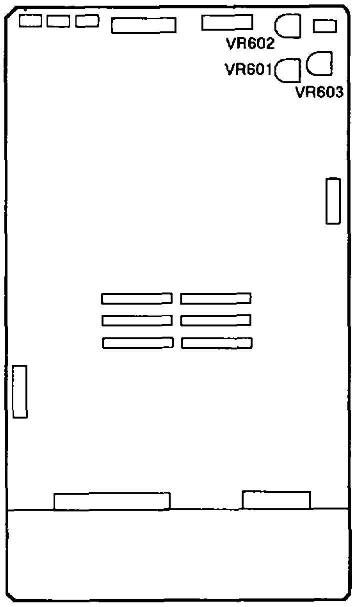
B TUNER ASSY


TP1511
+5V
F1512
F1510
VR1502
L1509
TC1501
C1568
TP1513
VIDEO
TP1755
R
TP1756
L
42
41
VR1501
TP1509
+9V
IC1501
TP1505
AGCOUT
TP1510
GND
1
40
F1504
L1517
F1501
TP1752
AM(L)
TP1754
2ndSIF
TP1501
SAWIN
F1502
F1507
TP1751
AM(L)
TP1753
2ndSIF
F1505
F1508
F1513
TP1653
F1514
TP1502
IF
TP1503
RFAGC
TP1651
MPX
L1705
F1701
TP1652
GND
FRONT END

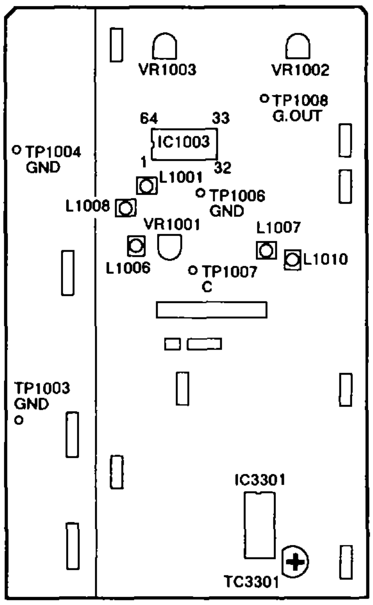
F DIGITAL ASSY


IC4005
1
24
L4004
12
13

C CONVERGENCE ASSY


VR602
VR601
VR603

D VIDEO•UCOM ASSY


VR1003
VR1002
TP1008
G.OUT
64
33
IC1003
TP1004
GND
1
32
L1001
TP1006
GND
L1008
VR1001
L1007
L1006
TP1007
C
L1010
TP1003
GND
IC3301
TC3301

E POWER SUPPLY ASSY

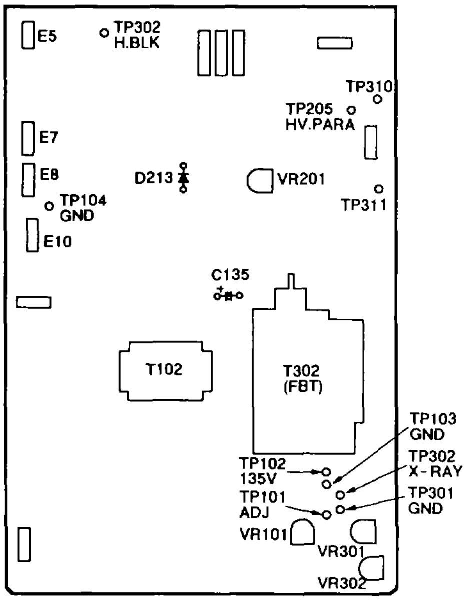
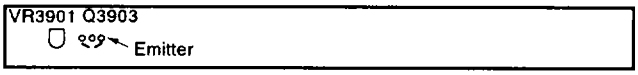

E5
TP302
H.BLK
TP310
TP205
HV.PARA
E7
E8
D213
VR201
TP311
TP104
GND
E10
C135
T102
T302
(FBT)
TP103
GND
TP302
X-RAY
TP102
135V
TP101
ADJ
TP301
GND
VR101
VR301
VR302

Fig. 7-21 Adjustment point (1)

Ⓖ FRONT CONTROL ASSY


VR3901
Q3903
Emitter

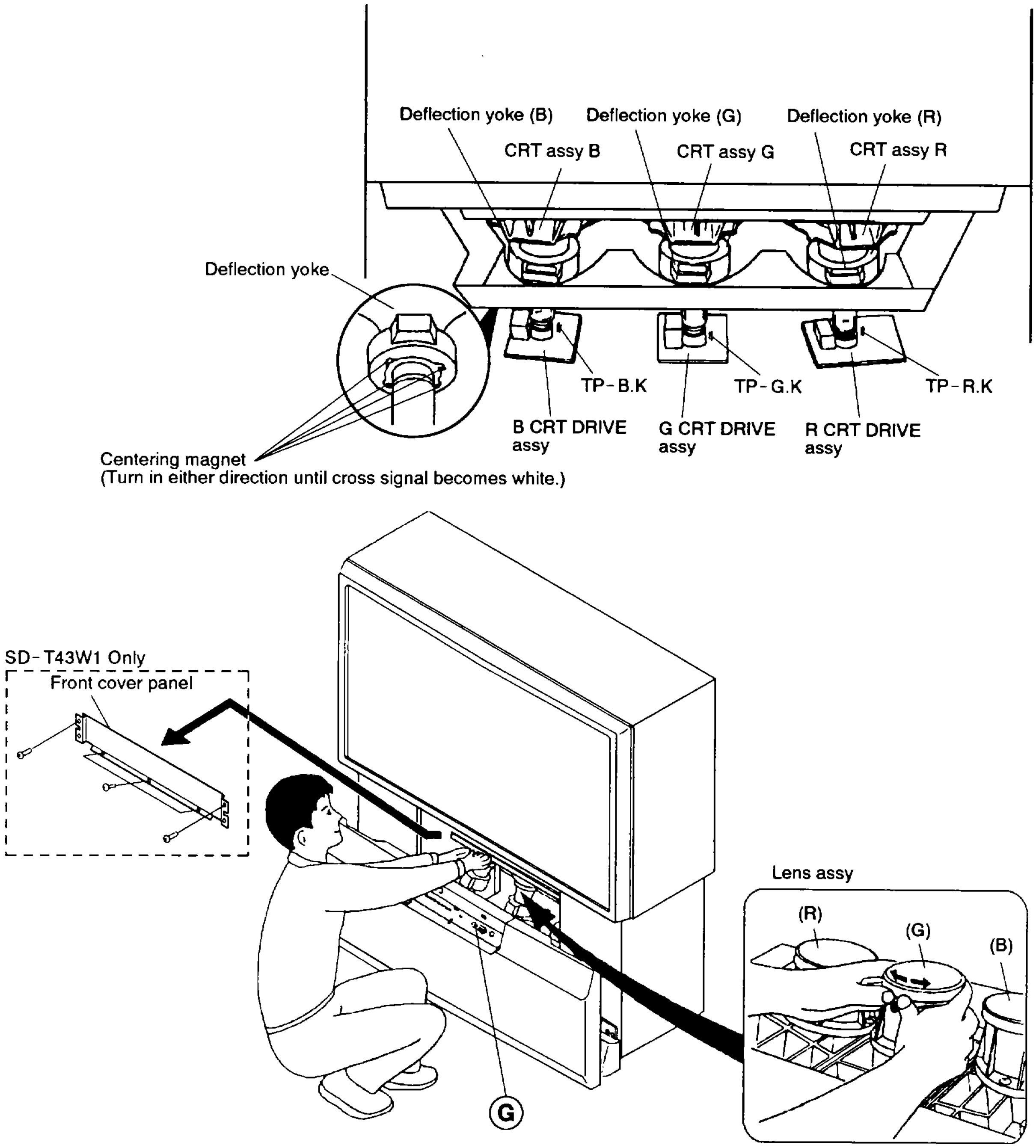

Deflection yoke (B)
Deflection yoke (G)
Deflection yoke (R)
CRT assy B
CRT assy G
CRT assy R
Deflection yoke
TP-B.K
TP-G.K
TP-R.K
B CRT DRIVE assy
G CRT DRIVE assy
R CRT DRIVE assy
Centering magnet
(Turn in either direction until cross signal becomes white.)
SD-T43W1 Only
Front cover panel
Lens assy
(R)
(G)
(B)
Ⓖ

Fig. 7-22 Adjustment point (2)

8. REPLACING THE CRT ASSY

Serviceman Warning
When replacing the CRT assy, turn off the power, unplug the AC plug and let the unit discharge for more than 1 minute.

The anode cables of the CRT assy R, G, and B in PROJECTION MONITOR RECEIVER are connected in series as shown in Fig. 1.
When replacing the CRT assy, the anode cable have to be cut.

Note: Since the anode cables for the CRT assy to service supplies are only available in half lengths, either cut longer lengths, or join older lengths of cable to ensure that the original cable length is used.

Table 1 Cable disconnecting methods

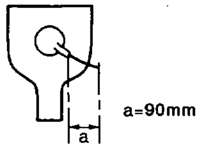
Cable	Replacement CRT assembly		
	When CRT assy B is replaced	**When CRT assy G is replaced**	**When CRT assy R is replaced**
Cable ⓐ	——	——	Disconnect the anode cable from the FBT. (Refer to page 145.)
Cable ⓑ	Leave it as is	Cut a place 20mm from the exact center towards the CRT assy G	Cut a place 20mm from the exact center towards the CRT assy R
Cable ⓒ	Cut a place 20mm from the exact center towards the CRT assy B	Cut a place 20mm from the exact center towards the CRT assy G	Leave it as is

Note : Do not cut other cables by mistake.

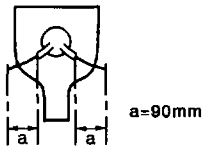
8.1 WHEN REPLACING THE CRT ASSY

Unplug the AC plug and let the unit discharge for more than 1 minute, then cut the anode cable according to table 1.

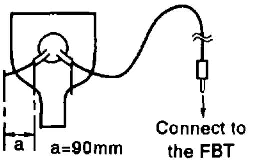
Each CRT assy supplied as a spare part is as shown below.



CRT ASSY B



CRT ASSY G



CRT ASSY R

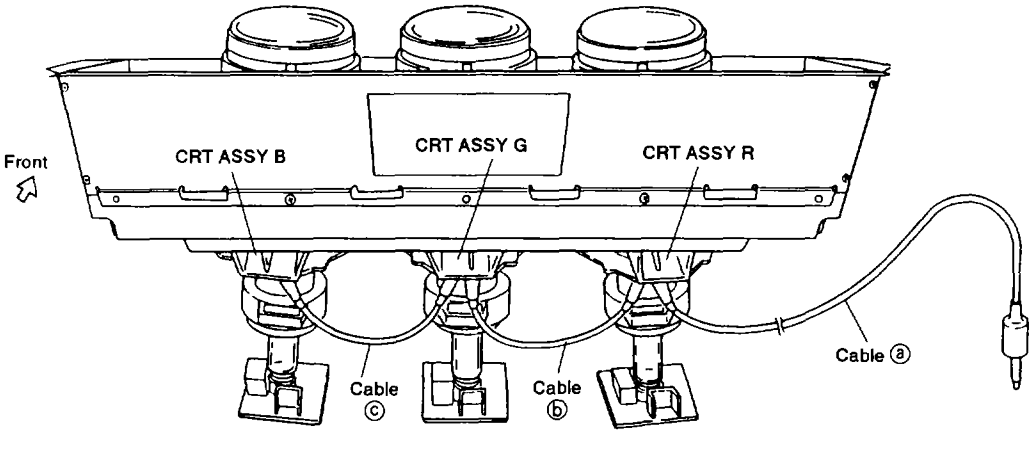
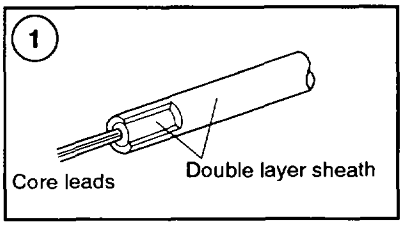
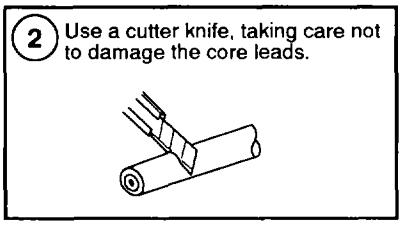


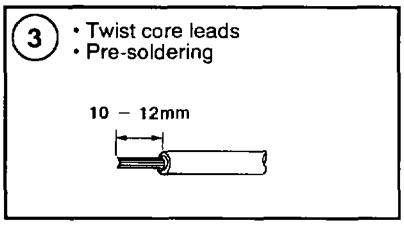
Fig. 1 Connection diagram of the each CRT assemblies

8.2 ANODE CABLE STRUCTURE AND SHEATH PEELING


①
Core leads
Double layer sheath



Use a cutter knife, taking care not to damage the core leads.



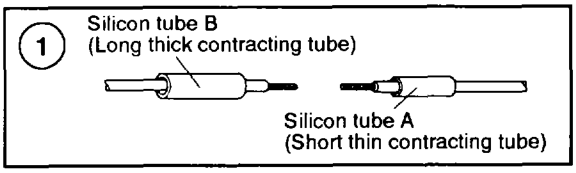
- Twist core leads
- Pre-soldering

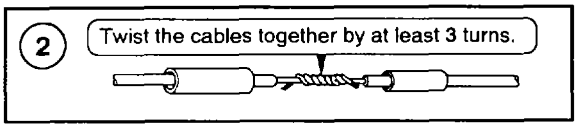
8.3 ANODE CABLE JOINING PROCEDURE

The silicon tube is packed with CRT ASSY. For the silicon adhesive, be sure to use silicon adhesive part number GYL-017.

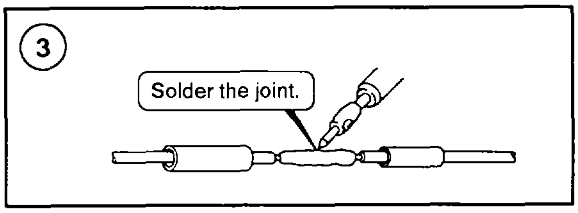
● CAUTION When connecting the anode cable, pay attention to the following.

- Take care not damage the anode cable sheath.
- Insulate the cable leads from other parts using the silicon adhesive and the silicon tube.
- Apply the silicon adhesive so that those are not air gaps.

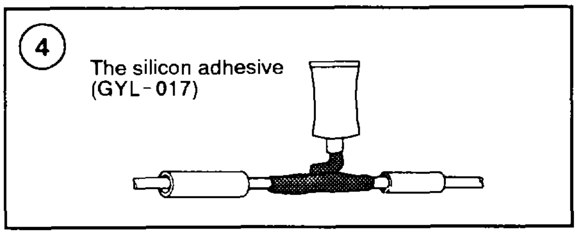

①
Silicon tube B
(Long thick contracting tube)
Silicon tube A
(Short thin contracting tube)

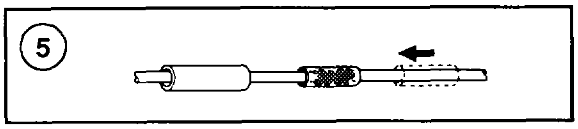


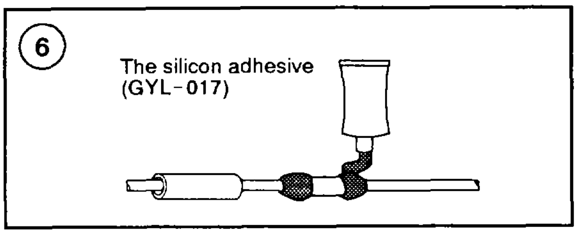
Twist the cables together by at least 3 turns.

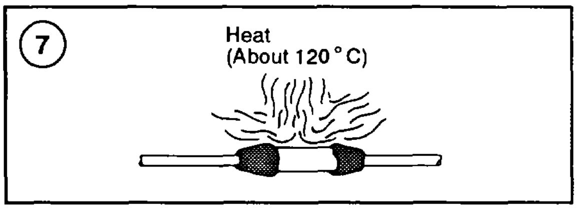


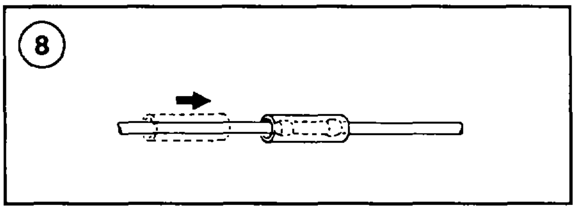
Solder the joint.

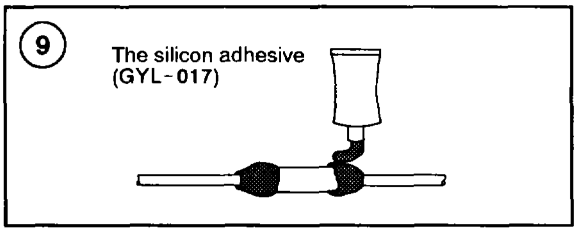

④
The silicon adhesive
(GYL-017)

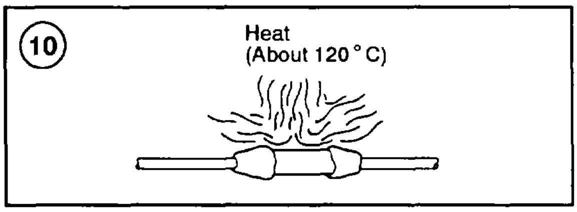


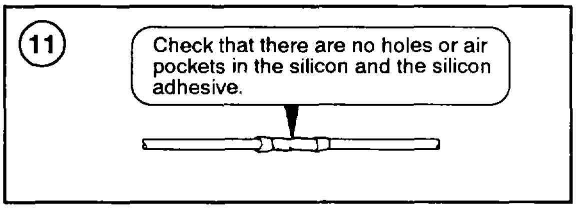

⑥
The silicon adhesive
(GYL-017)


⑦
Heat
(About 120 °C)




⑨
The silicon adhesive
(GYL-017)


⑩
Heat
(About 120 °C)



Check that there are no holes or air pockets in the silicon and the silicon adhesive.

9. WIRING DIAGRAM

Reconnect any disconnected lead wires of the Projection monitor receiver.
Fig. 9 - 1 show the important points for connection of the lead wires. You may find that they were connected differently. Be sure reconnect the lead wires as they were.

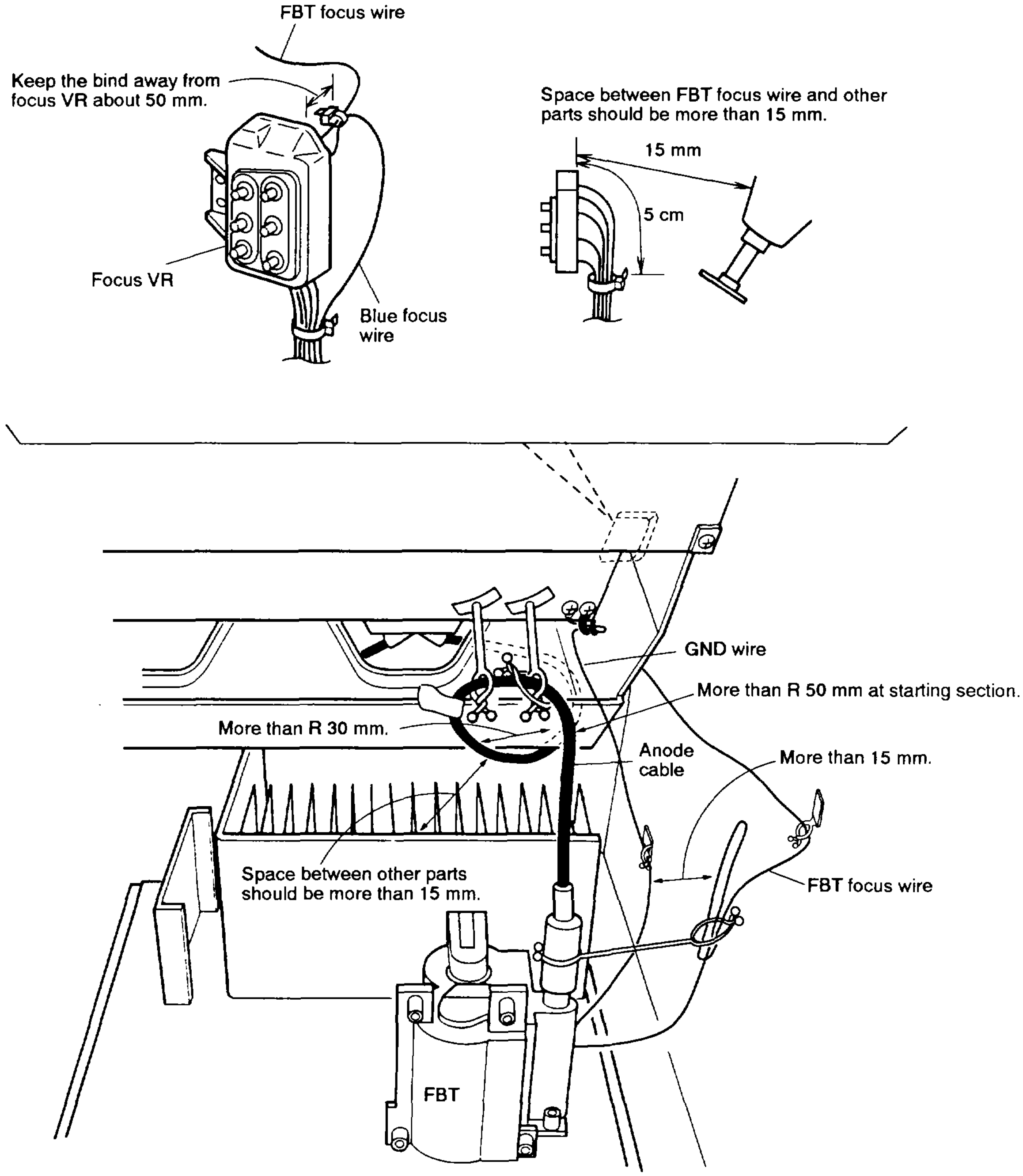
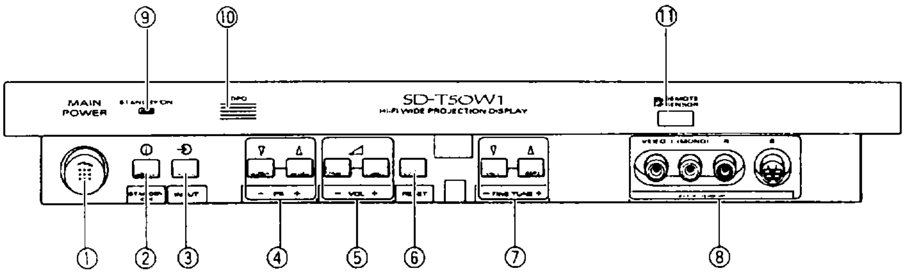

FBT focus wire
Keep the bind away from focus VR about 50 mm.
Focus VR
Blue focus wire
Space between FBT focus wire and other parts should be more than 15 mm.
15 mm
5 cm
GND wire
More than R 50 mm at starting section.
More than R 30 mm.
Anode cable
More than 15 mm.
FBT focus wire
Space between other parts should be more than 15 mm.
FBT

Fig. 9 - 1 Wiring diagram

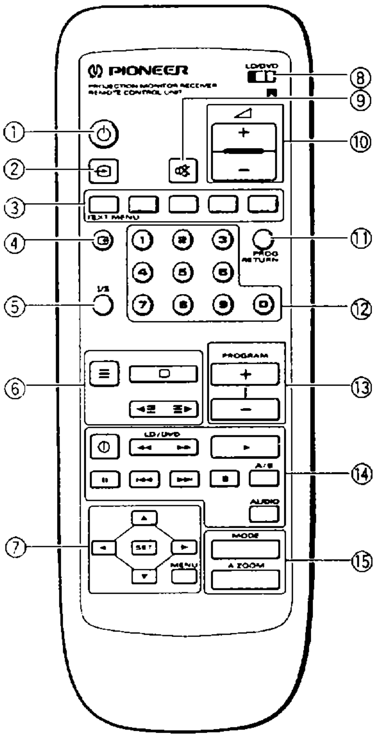
10. PANEL FACILITIES

Front panel



No.	Name	Function
①	MAIN POWER switch	: Switches the power between STANDBY and OFF.
②	⏻ STANDBY/ON button	: Switches the power between ON and STANDBY.
③	⮊ INPUT selector button	: Switches input sources.
④	PR (program) selector buttons	: Switches program numbers.
⑤	VOL (volume) buttons	: Adjust the volume.
⑥	RESET button	: Returns to the setting at factory.
⑦	FINE TUNE buttons	: Finely adjust (fine tuning) the reception frequency.
⑧		: Used to connect the video camera, etc.
⑨		: Displays the power state. (Red: STANDBY Green: ON)
⑩		: Detects the brightness of the room.
⑪		: Receives the remote control unit signals.

Remote control unit



No.	Name
①	⏻ Standby button
②	⮊ Input selector button
③	TEXT MENU selector buttons
④	🛈 Information button
⑤	I/II sound mode selector button
⑥	Teletext operation buttons
⑦	Menu operation buttons MENU: Turns on/off the control menu. ◄►▲▼: Moves the cursor on the control menu. SET: Used to execute operations on the control menu and select the mode.
⑧	LD/DVD selector switch
⑨	🔇 Mute button
⑩	Volume button
⑪	PROG (program) RETURN button
⑫	Number buttons
⑬	PROGRAM selector buttons
⑭	LD/DVD operation buttons
⑮	Zoom mode selector buttons

11. SPECIFICATIONS

Display section

Reception system .. American TV standard NTSC system
Screen size .... 50" (SD-T50W1/SL)
43" (SD-T43W1/SL)
Aspect ratio 16:9
CRT .... 7" High focus CRT × 3
Actual viewing angle .... Horizontal H = 140°
Vertical V = 50°
Input terminals .... 2 Scarts
(1: with AV output, 1: with TV output)
2 + 1 (Front) AV Cinch
2 + 1 (Front) Y/C plug
Output terminals .... 1 AV Cinch
1 Variable audio output (Cinch)
Input signal .... Video signal: 1.0 Vp-p ±3 dB
Input impedance .... Video input: 75 Ω ±10%
Audio input: 10 kΩ or more
Input signal polarity .... Synchronized negative
Output terminal signal ratings:
Output terminals .... Video signal: 1 Vp-p (75 Ω load)
Audio signal: 500 mV rms (100% modulation)
Output impedance .... Video output: 75 Ω ±10%
Audio output: Less than 1 kΩ

Tuner section

Circuit type .... Video signal detection:
PLL detection
PLL Digital Synthesizer system
Audio multiplex: .... NICAM, MTS,
GERMAN ANALOG 2 CARRIER
Reception channels

NTSC:			
US VHF:	CH2-CH13	UHF:	CH14-CH69
US CATV STD:	CH2-W+84	US CATV HRC:	CH1-W+84
Taiwan VHF:	CH7-CH13	Taiwan UHF:	CH33-CH48
PAL/SECAM:			
CCIR VHF:	CH2-CH12	UHF:	CH21-CH69
CCIR CATV:	E2-E12, S1-S41, S22H-S34H		
Belgium:	U1-U5, M1/7-M10/7, M1/8-M8/8, X-Z+2		
France:	FB-FC, F1-F6, K4-K9, B-Q		
Italy:	A-H2	New Zealand:	CH1-CH11
OIRT:	R1-R12	China:	CH1-CH57
Australia:	CH0-CH11	Ireland:	A-J
UK:	CH21-CH69		

Antenna terminal .... ANTENNA terminal,
TV coaxial 75 Ω UNBAL

Electrical section, miscellaneous

Power requirements
.... AC 110/120-127/220-230/240 V, 50/60 Hz
Power consumption .... 330 W
External dimensions
.... 1,240 (W) × 615 (D) × 1,215 (H) mm (SD-T50W1/SL)
.... 1,092 (W) × 529 (D) × 1,172 (H) mm (SD-T43W1/SL)
Weight of main unit .... 90 kg (SD-T50W1/SL)
.... 71 kg (SD-T43W1/SL)

Amplifier section

Tone control .... BASS, TREBLE
Built-in speaker system .... 50 inch 12cm × 2, 6 cm × 2
43 inch 12 cm × 2
External speaker impedance .... 8-16 Ω

Wireless remote control unit

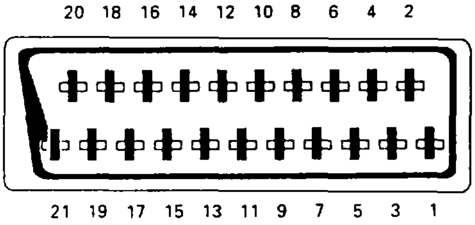
Operation system: Infrared remote control system
Power source: Two AAA/R03 1.5 V dry cell batteries

Accessories

Operating instructions 1
Remote control unit 1
AAA/R03 dry cell batteries 2
Power cords 2
Caster pedestals 4
VCR fixed band (SD-T43W1/SL only) 1

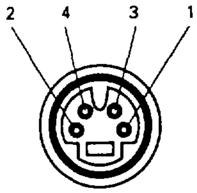
NOTE:
Specifications and design are subject to possible modifications without notice due to improvements.

Assignment of connections for EURO-AV sockets



	EURO-AV1	EURO-AV2
1	Audio output B	Audio output B
2	Audio input B	Audio input B
3	Audio output A	Audio output A
4	Audio ground	Audio ground
5	Blue ground	–
6	Audio input A	Audio input A
7	Blue	-
8	Switching voltage	-
9	Green ground	-
10	-	-
11	Green	-
12	-	-
13	Red ground	-
14	-	-
15	Red or chroma signal with S-Video	Chroma signal with S-Video
16	Blanking signal	–
17	Video output ground	Video output ground
18	Video input ground	Video input ground
19	Video output	Video output
20	Video input or luminance with S-Video	Video input or luminance with S-Video
21	Screening or ground	Screening or ground

Assignment of connections for S-VIDEO socket



1 Ground	3 Luminance
2 Ground	4 Chroma signal